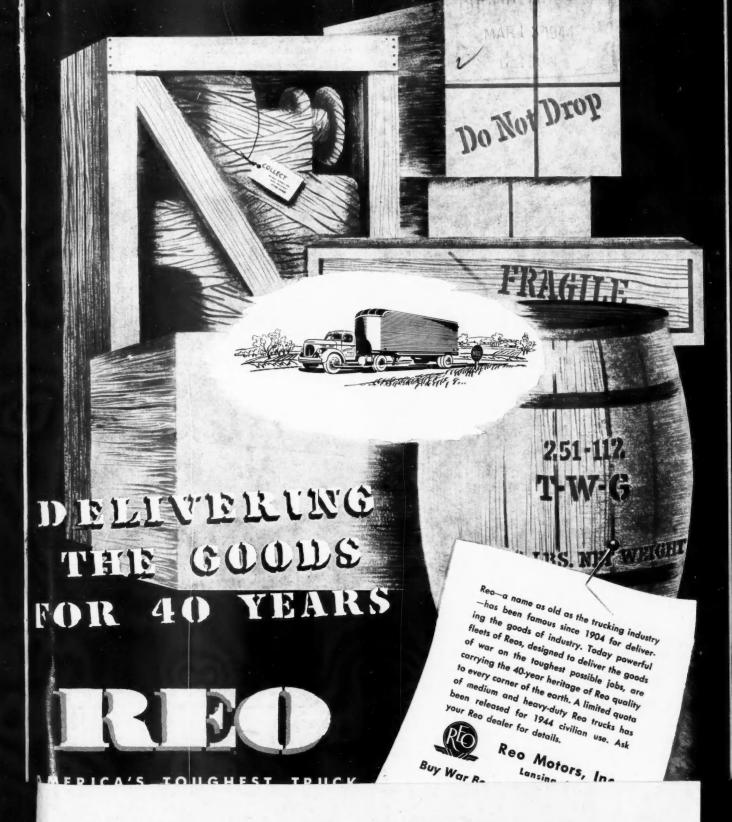
OLOGY DEPT

COMMERCIAL CAR JOURNAL

MAGAZINE FOR FLEET OPERATORS

MARCH 1944



v. 67 Mr-Ag1844

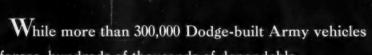


DEPENDABLE DODGE SERVICE KEEPS YOU "ON THE JOB"

CARS

4,500,000 TRUCKS, AND THEIR MILLIONS OF DRIVERS ARE SERVING AMERICA'S VITAL HOME FRONTI

TUNE IN MAJOR BOWES, CBS, THURSDAY, 9 P. M. E.W.T.



Dodge Job-Rated Trucks are serving factories and farms in America's gigantic war-production task. Devoted to the war effort, too, are thousands of Dodge Dealers...working and serving...making sure that "it's a long way to the last mile of a dependable Dodge."

DODGE Job Rated TRUCKS

leon

That more planes may fly

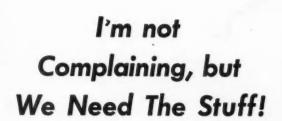
Today, endless caravans of giant trucks are rolling night and day all over the face of America . . . all dedicated to but one proposition: That more planes may fly . . . that more ships may come down the ways . . . that a nation may have everything it needs to fight—and win!

To perform this essential job . . . to make sure that it will be done in the minimum time and with the minimum cost in equipment, manpower and precious fuel stores . . . the country's biggest operators are using the power that, for more than a decade, has been setting the pace in economy, speed and dependability—Cummins Diesel Power.

So marked has been this trend to Cummins in the motor transport field that 90% of all long-line, heavy-duty, diesel-driven trucks are now Cummins-powered. Here is ample proof that major fleet owners have learned that the surest way to "get there fustest with the mostest" is to power with Cummins Dependable Diesels. Cummins Engine Company, Columbus, Indiana.

This is the fifth in a series of advertisements depicting the war-time role of Cummins Diesel Power in the nation's basic industries. If you are operating Cummins Diesels on your job, make doubly sure of their most efficient use by providing for their proper maintenance and service. Ask your Cummins Dealer for details.

DANGEROUS



Breakdowns are no fun. You didn't ask for your last one—that's a cinch. But did you do all you could to prevent it? After all, you're the driver. You can keep your truck rolling if anyone can. Do it for us, will you, fellow? Thanks!



RICH VALVES

are manufactured by the Wilcox Rich Division of Eaton Manufacturing Co. and distributed exclusively by

the Mc Quay: Nomis Jobbens

ON THE BRINGIPAL CITIES, AMPLE STOCKS AND IMMEDIATE SERVICE ON THE

IN ALL PRINCIPAL CITIES. AMPLE STOCKS AND IMMEDIATE SERVICE ON THE





This armored truck-and-trailer carries tanks to the front lines fully fueled, loaded and ready for battle, and, if disabled, back to the rear for repairs. Armed to fight off interference with its work, it has crew rations for four full days.

Sure-fire engine performance is a must in this service, just as with fleet operators on the home front. This explains why many fleet owners lubricate with *Texaco D-303 Motor Oil*.

Texaco D-303 has the properties of detergency and dispersion. Its detergency keeps piston rings free and engine parts clean. Its dispersion holds deposit-forming materials in suspension until drained at oil-change time. D-303 protects modern bearings and prevents scuffing of rings, pistons, cylinders, etc.

For quieter-running, longer-lasting transmission and differential gears, use Texaco Universal Gear Lubricant.

So effective have Texaco lubricants proved that they are definitely preferred in many fields, a few of which are listed below.

Texaco Lubrication Engineering Service is available to you through more than 2300 Texaco distributing points in the 48 States. The Texas Company, 135 East 42nd Street, New York 17, N. Y.

THEY PREFER TEXACO

- * More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.
- * More locomotives and railroad cars in the U. S. are lubricated with Texaco than with any other brand.
- ★ More revenue airline miles in the U. S. are flown with Texaco than with any other brand.
- * More buses, more bus lines and more bus-miles are lubricated with Texaco than with any other brand.
- * More stationary Diesel horsepower in the U. S. is lubricated with Texaco than with any other brand.





M



Lubricants and Fuels FOR THE TRUCKING INDUSTRY

TTER HARDW

Complete Line

FOR twenty-four years Hansen Hardware has been known for its simple design, easy application and dependable performance. It is especially designed and built to withstand severe service in commercial body use.

During this period of progress, the Hansen Line has been gradually expanded until it embraces not only the products shown but many others—making it possible to get all your body hardware requirements from one line. Catalog on request—if you don't already have one.



No.
3-ply.
Size, 12" strap. 24
wide. All-steel. Std., 4" offset
Wt., 4 lbs.
Ne. 12-R ROUND - CORNER
HINGE. Leaf-type. For 6" radius.
2-ply. All-steel. Size. 12" strap.
24" wide. Wt., 5 lbs.
No. 12-S SQUARE-CORNER
HINGE. Leaf-type. 2-ply. All-steel. Size. 12" strap; width,
14". Wt., 2% lbs.
No. 24 SLIDING DOOR HANGER.
For doors suspended from top.
Hanger is straight, without offset.
Hardened steel roller and axic.
Size. 3"x4".
No. 44 SLIDING DOOR LOCK.
Locks in open and closed position.
Size. 1%" wide. 4%" high. 4"
hick. Stamped steel. Right- or
left-hand or in pairs. Wt., 9 css.
No. 55 CAS LOCK (left-hand).
Built-in pull handle. Die-formed
steel bushing. No mortising. Size,
3%" high, 2" wide, 3%" handle,
1" striker bolt.
No. 60 EXTENSION LOCK (left-hand).
Size,

steel bushing. No mortising. Size, 3%" high, 2" wide, 3%" handle, 1" striker boil.

No. 60 EXTENSION LOCK (left-hand). One-plece construction. Size, 5"x10". 5" handle, 1%" hardeney striker boilt. Matched rosetted Wt., 2% lbs.

No. 90 FLUSH HANDLE. Fit flush. Size, recess 4%" dia., 3% deep. Finnge, 7/32" dia. Shank 3%" long, 5/16" dis. For right-or left-hand operation. Wt., 1 lb No. 85 WINDOW REGULATOR (Trank handle. Straight-up lift Mechanism enclosed. Bight-or left-hand operation. Complete with channel, crank and rosette. Made in 5 lengths, 22" to 30". Wt., 4 lbs., length 81", center 8%" dia. Size, length 81", size, die, 6%" long. Rods, % dia., 30" long. Wt., 3 lbs., 2 css.

No. 111 HEAVY-DUTY LOCK. Supplied with %" dia. rods, 48" long, 36" bottom, for doors up to 7". For doors up to 3", two 48" rods are supplied. Boits, top and bottom, 1%" wide. Center bolt, 2%" wide. Wu., 15 lbs.

No. 114-C HANDLE AND ES-CUTCHEON. For use with No. 111 Heavy-Duty Lock. For right- or left-hand, side or rear doors. Size, length of handle 7%", with 4%" grip. Shank, 36" square, 4%" long. Wt., 14 lbs.

No. 124-L SLAM-and-TAKE-UP LOCK, with Locking Cylinder and two keys. Double-angle striker bolts prevent rattle and play. Rods, 28" long. Flush or offset bolts.

A. L. HANSEN MFG. CO. 5047 RAYENSWOOD AVE. CHICAGO, ILL.





HE HARDWARE



"By guess and by golly" might have been the best they could do back in the good old days when doctors wrote everything but the kitchen sink into a prescription . . . and when the installation of a set of piston rings was punctuated with a four-leaf clover and a prayer for luck.

But not now! "By guess and by golly" is out—way out.

To do a real job in an engine, piston rings must be just right for that particular engine.

The Perfect Circle Fleet Survey Plan prescribes a custom-made combination of piston rings for each make and model ... for the condition of every engine ... for the specific type of service.

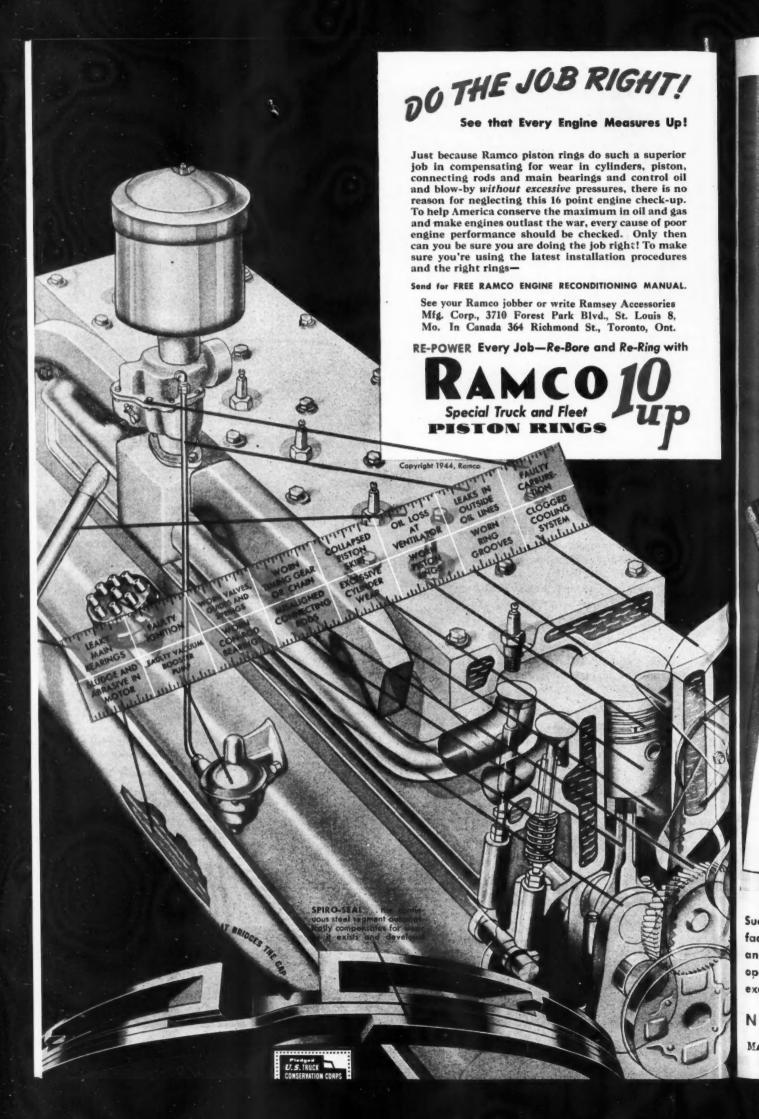
Results are longer periods between re-ringing and overhaul, lower oil and gasoline consumption—in short, lower over-all operating and maintenance cost.

A Perfect Circle engineer will gladly work with you to determine what combination of piston rings is best for each unit in *your* fleet. This study has proved exceedingly profitable to others. It will profit you, too.

Call your Perfect Circle distributor, or write The Perfect Circle Companies, Hagerstown, Indiana, U. S. A., and Toronto, Ontario, Canada.









Successful fleet operators always look for two primary factors in testing any piece of equipment—economy and dependability. The fact that the majority of fleet operators the world over use Champion Spark Plugs exclusively bespeaks volumes for the economy and

dependability of Champions. The thousands of letters in our files from satisfied fleet owners verify this fact beyond any question of doubt. Your fleet should have Champion Spark Plugs in every unit. Install Champions and you'll "Keep'Em Rolling Longer."

NO JOB TOO BIG-NO WORK TOO TOUGH-for CHAMPIONS



Colonel Herbert W. Alden (Ordnance Reserve)

Dean of Axle Engineering

Chairman of the S.A.E. Ordnance Advisory Committee, Engineer Consultant to the Chief of Ordnance, winner of the Frank Scott Medal (1941) "as a leader among engineers for his services to national defense," twice President of the S.A.E., Col. Herbert W. Alden is the recognized dean of axle engineering.

Director of engineering of The Timken-Detroit Axle Company since 1909, Col. Alden heads an executive engineering staff with an aggregate experience of more than 700 years in the design and development of axles and brakes.

No other organization in existence can duplicate this specialized knowledge of load-carrying, load-moving

and load-stopping problems in the truck, trailer and bus fields.

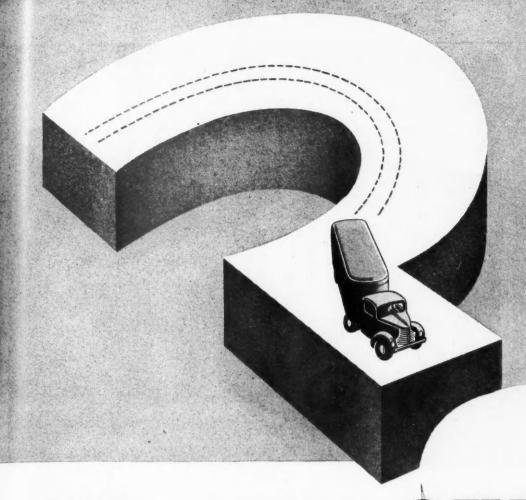
As the world's largest builders of axles and brakes for commercial vehicles, Timken has devoted this wealth of experience over a long period of years to the joint tasks of mechanizing and motorizing our modern army and improving the performance of motor transport

The vast research and technical resources of the Timken-Detroit organization are available now to manufacturers of better vehicles for tomorrow.

Make sure you get Timben Axles under your 1944 Truck!

TIMKEN AXLES

THE TIMEN-DETROIT AXLE COMPANY, DETROIT, MICHIGAN WISCONSIN AXLE DIVISION, OSHKOSH, WISCONSIN



GAS-SAVER QUIZ for fleet operators

Can you answer "Yes!" to these questions and be sure you are right?

rve)

and

akes

alth

oint

rmy

port.

- Q. A clogged Air Cleaner can cut gasoline mileage as much as 40%. Are you sure the Air Cleaner is clean on every one of your trucks every trip?
- Q. Any idling wastes gas aplenty. Are you making sure your trucks aren't idling their heads off?
- Q. Sooty or worn Spark Plugs can waste up to a gallon of gasoline in every ten. Are you certain every plug on every truck is clean and efficient?
- Q. Are you certain that clean, properly adjusted distributor points, and correct timing are doing their share of gas saving for you?
- Q. Are you dead sure an over-rich carburetor mixture from high float levels and other causes isn't

- eating quite a hole in the gas mileage of some of your trucks?
- Q. Over-cooling can cut down mileage per gallon. Are you sure thermostats are functioning, radiator covers are used when needed?
- Q. Stiff operation of transmissions and differentials means gas is being wasted. Are you sure the right grade of lubricant is in every truck?

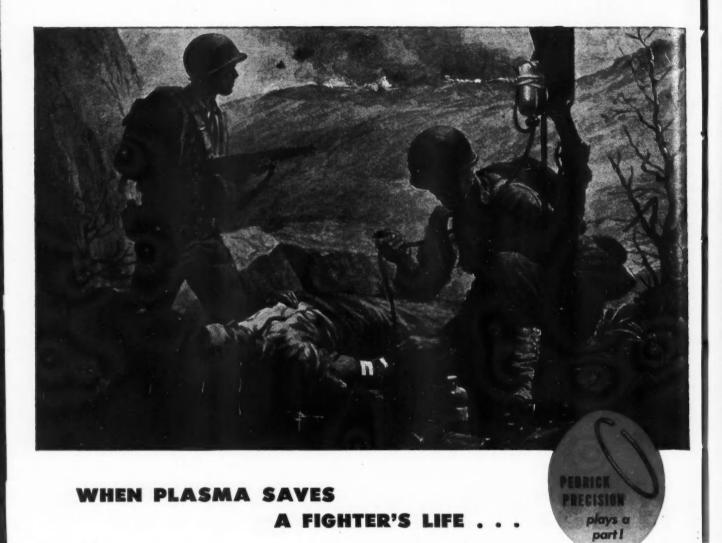
This is a partial list of gas-saver questions to which a Standard Oil Engineer can help you find the answer—to give you the last inch of mileage out of your gasoline supply. Call the nearest Standard Oil Company (Indiana) office, or write 910 S. Michigan Ave., Chicago 5, Illinois. In Nebraska, call any Standard Oil Company of Nebraska office.

Oil is Ammunition . . . Use it Wisely

STANDARD OIL COMPANY (INDIANA)

STANDARD

* LUBRICATION ENGINEERING



• HUMAN SALVAGE has been higher in World War II than in any previous war, due principally to the use of human blood-plasma, which counteracts shock due to loss of blood, and gives the heart "something to beat on."

Pedrick precisioneered rings are used in the laboratory processing of blood. Vapors are driven off by a vacuum pump, operated by a compressor with Pedrick rings. Temperatures are held to 50 or 60 degrees below zero. Another com-

pressor, Pedrick-equipped, keeps an alcohol bath at low temperatures... likewise a part of blood-processing.

In war and peace, Pedrick precisioneering assures correct tension and dimension of rings, with that all-important flatness engineers demand. It's Pedrick's exclusive Heat-Shaping process which makes precisioneering possible. WILKENING MANUFACTURING CO., Philadelphia and Scranton, Pa. In Canada: Wilkening Manufacturing Co. (Canada), Ltd., Toronto.

THE POWER TO WIN

The engine is the heart of motor-transportation. Never before was it so important to keep engines in perfect running condition by using the most efficient parts and doing the service work properly. One sure way to prolong engine-block life, save oil and gas, and your mechanics' time, is to use Pedrick Engineered Sets of compensating piston rings on reconditioning jobs. See your Pedrick jobber for precisioneered rings and labor-saving service information.

WILL YOU GIVE ANOTHER PINT OF BLOOD TO SAVE A FIGHTER'S LIFE?





MR. NORTON'S experience with "Plug-Chek" is particularly important these days when so many fleet owners are striving to deliver the impossible in transportation. Here's his complete statement:

"Inasmuch as our fleet does local work as well as long distance hauling your 'PlugChek' has helped a lot in getting the right heat range plug in the job for the type of work they are doing. We are also using it in training new mechanics."

Try "Plug-Chek" in your own fleet. You can get a "Plug-Chek" Inspection Kit FREE. Simply write to.

THE ELECTRIC AUTO-LITE COMPANY

TOLEDO, 1

Merchandising Division

OHIO



MAL

Truck Tire Tips

PROPER TIRE REMOVAL



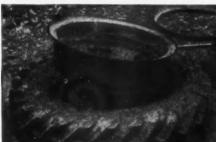
1. Deflate the tube and loosen beads from rim flange with tire tools. (Even after short service tire beads become stuck to rim flanges.)



2. Remove locking ring by inserting tire tool in the notch provided for that purpose. Stand on the ring directly opposite notch.



3. Pry flange off a little at a time, moving the tire tools only a few inches each time a portion is loosened. This procedure will prevent bending the flange.



4. When the flange is removed, turn the wheel over and place on blocks, allowing the tire to drop on the ground as shown in this illustration.

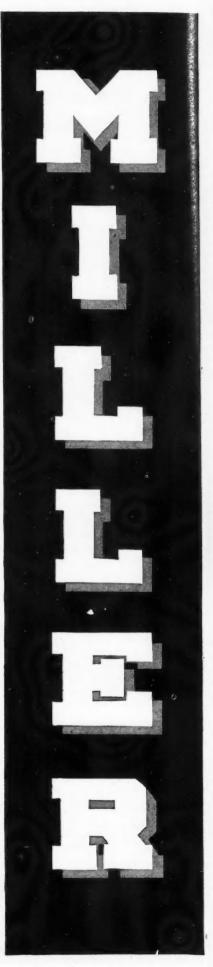


IMPORTANT

New 24-page book showing 16 causes of premature truck tire failure and how to overcome them. Write Miller Tires, Akron, Ohio or Los Angeles, Calif. for your free copy.

MILLER

"HEAVY SERVICE"
TRUCK TIRES



MAR



"Duck Shooting"in Italy



Out of the invasion of Sicily and Italy have come many striking examples of the value and versatility of

GMC Truck & Coach Division's $2\frac{1}{2}$ ton Amphibian Truck. General Montgomery and his staff are reported to have ridden into Sicily in a "Duck." Both the British Eighth Army and American Fifth Army used them by the hundreds to establish beachheads and supply their forces on the

Italian mainland. A hundred Axis soldiers are said to have surrendered without a struggle when one of these monsters emerged from the surf with machine gun blazing. As the illustration above shows, the "Duck" is now armed with a swivel-mounted, 50-caliber machine gun so that it can do some shooting on its own behalf. Watch the news stories from the many fighting fronts and you'll notice that the "Duck" is out in front in most amphibious operations.

INVEST IN VICTORY . .

BUY MORE WAR BOND

GMC TRUCK & COACH DIVISION , GENERAL MOTORS

Home of Commercial GMC Trucks and GM Coaches . . . Volume Producer of GMC Army Trucks and Amphibian "Ducks"

MARCH, 1944

Use postage-paid card inserted in this issue for free information on advertised products

Lace for a Lady



Those ammunition links represent plenty of American ingenuity and production skill...

In the jungle heat, your armorer loaded the deadly "lace" aboard your P-38. Now, escorting bombers you're headed for a fight.

If your guns jam, you're really in trouble. To minimize this possibility engineers of the Spring Division of Borg-Warner have been hard at work on machine gun and cannon link problems since Pearl Harbor. In cooperation with Army engineers they have developed four new links. They have also had an active part in the Army's

program which now produces a .50 calibre link of vastly improved performance. The Spring Division of Borg-Warner produces various size links by the million.

To the making of these precision links and over 100 otherwaritems, we apply the idea that is basic with Borg-Warner: "design it better—make it better."

The automotive industry has felt the benefits of this idea

through every Borg-Warner product supplied to it. Upon this confidence we hope to build an even closer association in the days ahead.

Partners with the automotive industry from the start, Borg-Warner supplies these and other essential parts...

TRANSMISSIONS

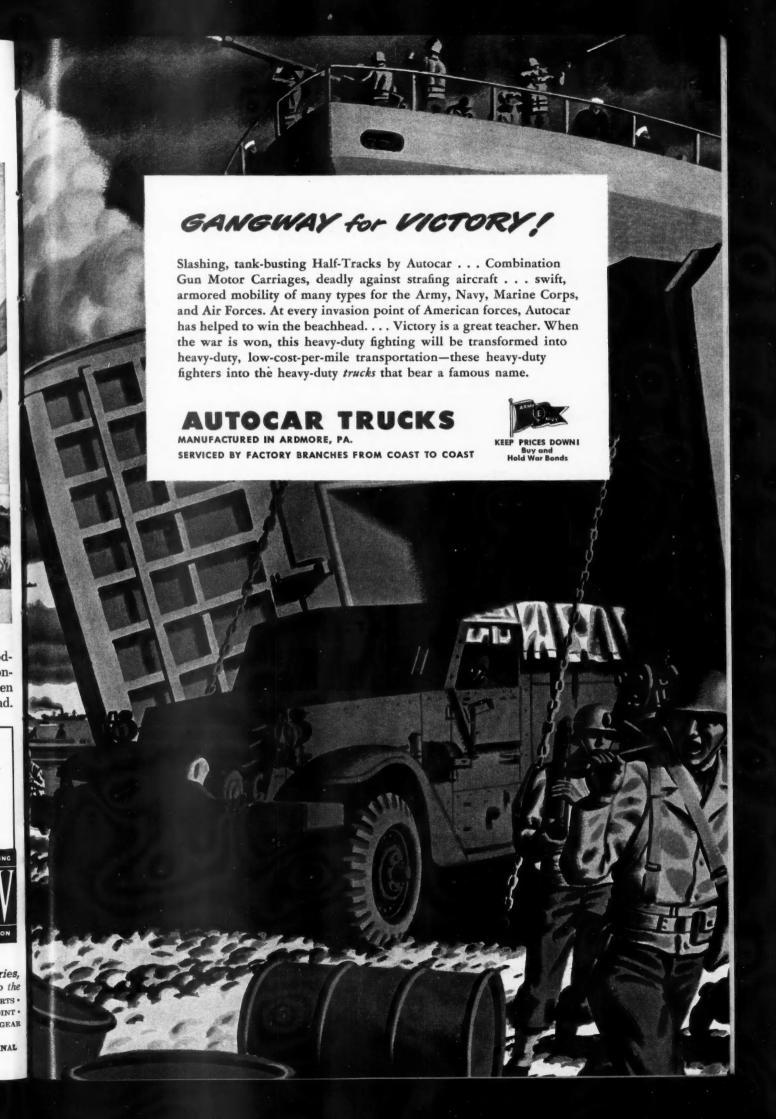
TRANSFER GEARS OVERDRIVES
SYNCHRONIZERS CLUTCHES
COIL SPRINGS AND FLAT SPRINGS

FLUID COUPLINGS
UNIVERSAL JOINTS AND
DRIVE SHAFTS



BORG-WARNER

Peacetime makers of essential operating parts for the automotive, aviation, marine and farm implement industries, and of Norge home appliances . . . these units which form the Borg-Warner Corporation are today devoted exclusively to the needs of war: Borg & Beck • Borg-Warner international • Borg-Warner service parts • calumet steel • detroit gear aircraft parts • ingersoll steel & disc • long • marbon • marvel-schebler carbureter • mcculloch engineering • mechanics universal joint • morse chain • norge • norge machine products • pesco • bockford clutch • spring division • warner automotive parts • warner geal





"This is the reason why we have SSF Bearings running from 70,000 to more than 100,000 miles before they need to be replaced," explains Bill Hoffacker to his men.

Bill ought to know. Fleet superintendent for Highway Express serving Pennsylvania, New York, Maryland, Delaware, New Jersey, District of Columbia, etc., he has charge of servicing 250 trucks.

Among his bearing "musts" are correct lubrication, leaving bearings in wrappings until they're to be used, applying pressure on the inner race only, never hammering the outer race.

Important points for repair men everywhere to remember. 5512

5KF INDUSTRIES, INC. • FRONT ST. & ERIE AVE. • PHILADELPHIA 34, PA.

SAVE THE CARCASS:



Go to Truck Tire Headquarters for MAINTENANCE - REPAIRING - RECAPPING



• Today—the most valuable things you own are the carcasses of those natural rubber tires on your trucks. To save your business you must save those carcasses—because, if you don't, you may not roll.

For expert help, the best man to see is your local General Tire dealer. He is a truck-tire specialist. He has the long experience; complete, modern equipment; trained personnel; and over-all "know-how" required today to get every last mile from your carcasses.

His knowledge of how to protect tires through proper inflation, loading, matching—his ability, by regular inspection, to discover trouble before it becomes serious—his exclusive General Tire-Kraft System balanced recapping—are at work right now to keep many leading operators rolling.

Put your tire problems in the hands of your General Tire dealer and you know that you are going all the way to make your carcasses last.

THE GENERAL TIRE & RUBBER CO., AKRON, C.

n.

d,

er

to

512

BALANCED BRAKES

HAVE WHAT-IT-TAKES



Use Grey-Rock BALANCED Materials and Grey-Rock Engineering Methods with National Safety Council Standards

- -for balance in materials
- -for balance in application
- -for balance in brake-action

SEE YOUR GREY-ROCK JOSSES

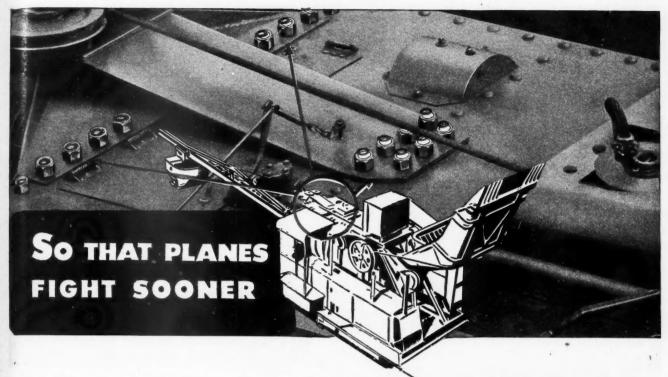


Grey-Rock

BALANCED BRAKSETS · BLOCKS

CLUTCH FACINGS . FANBELTS . HOSE

ESSENTIAL PRODUCTS FOR ESSENTIAL TRANSPORTATION



RANSOME pavers built American highways. Now they are rushing airports along our battle fronts.

Every hour of construction time they can save gives that much advantage to our fighting airmen.

Paving is a shattering job. And it used to be accepted that frequent take-ups and tightening were part of paver maintenance.

But no more! Not since Ransome began using Elastic Stop Nuts the nuts that stay put.

Now the paver keeps on the go longer, and our planes fight sooner.

The reason Elastic Stop Nuts

hold tight in spite of wracking vibration lies in the elastic collar in their tops. This snuggles close around the bolt threads, grips them and prevents the nut from turning and loosening.

Countless fastening problems lie ahead in the coming days of peace. Many of them will be solved successfully with Elastic Stop Nuts. Products will be safer, and longer-lasting. Production equipment will stay at work with less maintenance.

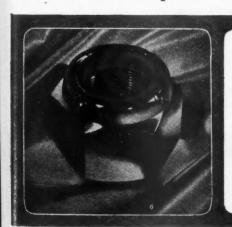
If you are faced with a fastening problem, feel free to call upon us. Our engineers will gladly help you solve it and suggest the proper Elastic Stop Nut.

ELASTIC STOP NUTS HELP BIG, BUSY RANSOME PAVERS DO MANY VITAL WAR JOBS

"Concrete road pavers are subjected to tough, grueling work, especially on twenty-Jour-hours-a-day service, for which many Ransome Pavers have been called upon in the construction of airport runways since the war started. All told, there are about 1,200 Elastic Stop Nuts used on every Ransome Paver we build. By substituting Elastic Stop Nuts for the ordinary kind, we are helping the Ransome Paver owner minimize his maintenance job because the nuts are self-locking and vibrationproof. No time out for tightening-no extra hours of labor to take up slack. Elastic Stop Nuts clso simplify our shop assembly job. They are a further contribution to the improvement of our paver, which is our constant goal."

Haber Chief Engineer

RANSOME MACHINERY CO., DUNELLEN, N. J. Subsidiary of Worthington Pump and Machinery Co.



ESNA

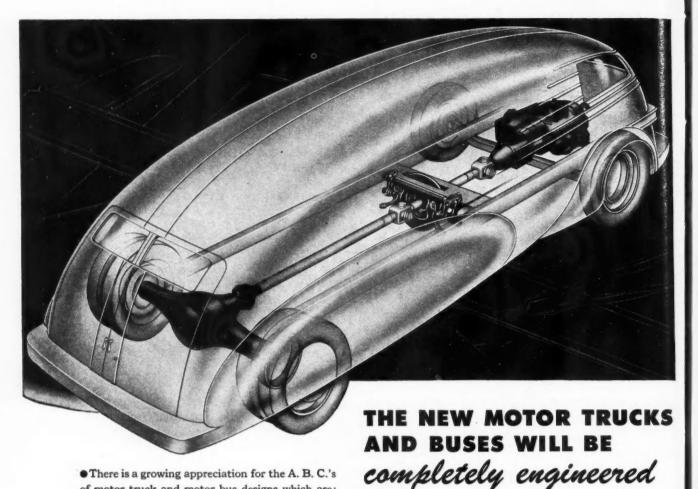
ELASTIC STOP NUT CORPORATION OF AMERICA

ELASTIC STOP NUTS

Lock fast to make things last
UNION, NEW JERSEY AND
LINCOLN, NEBRASKA

THE COLLAR
THE BOLT BY
THE ACTION OF
THE GRIPPING
RED COLLAR.

MADE IN ALL SIZES AND TYPES — WITH
THREADS TO RIT ANY STANDARD
TYPES OF BOLTS.



There is a growing appreciation for the A. B. C.'s of motor truck and motor bus designs which are:

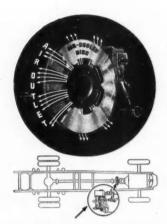
- (a) LOAD. The vehicle must carry sufficient pay load at costs that permit a profit—mainly a frame and body problem.
- (b) GO. The vehicle must be moved economically—that's a matter of engine, clutch, transmission, universals and rear-end design.
- (c) STOP. The braking system must be safe, sure and economical including emergency brakes. Because the load must be stopped.

You can have your new equipment delivered equipped with TRU-STOPSthe safest and most economical emergency brake you can get-if you insist upon them. They are standard with many manufacturers and listed optional with many others. TRU-STOPS operate on the propeller shaft. They are disc-type brakes-positive, sure. Your driver can make more safe, smooth stops from any vehicle speed. He can use his TRU-STOPS continually to help save the service brakes. Linings last longer because the ventilated disc dissipates the heat of braking. Brake service is needed much less often.



AUTOMOTIVE AND AIRCRAFT DIVISION

6-235 General Motors Building, Detroit 2 • 695 Bryant Street, San Francisco 7



TRU-STOP Emergency BRAKES

TRU-STOPS are manually-operated propeller shaft emergency brakes of disc type. A flow of air is driven across both discs by vane construction that rivals the efficiency of well-made pressure pumps—dissipating the heat of braking that destroys the linings of other brakes.

a Division of AMERICAN CHAIN & CABLE COMPANY, INC., Bridgeport, Conn.

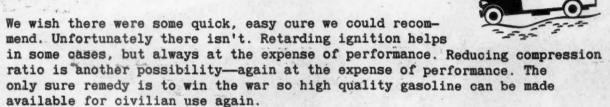


ESSENTIAL PRODUCTS . . . TRU-LAY Aircraft, Automotive, and Industrial Controls, TRU-LOC Aircraft Terminals, AMERICAN CABLE Wire Rope, TRU-STOP Brakes, AMERICAN Chain, WEED Tire Chains, ACCO Malleable Castings, CAMPBELL Cutting Machines, FORD Hoists, Trolleys, HAZARD Wire Rope, Yacht Rigging, MANLEY Auto Service Equipment, OWEN Springs, PAGE Fence, Shaped Wire, Welding Wire, READING-PRATT & CADY Valves, READING Electric Steel Castings, WRIGHT Hoists, Cranes, Presses . . . In Business for Your Safety

Facts and Flashes

From the
ETHYL CORPORATION
Chrysler Building, N.Y. C.

The man who first said, "Every knock is a boost" certainly wasn't driving a truck or bus. Limitations on the maximum octane value of both regular and premium gasoline—72 for regular, 76 for premium—are certainly the cause of many a wartime headache for fleet operators.



Right now the lion's share of high octane gasoline is going overseas . . . millions of gallons a day. The petroleum industry is doing a magnificent job of meeting the ever-mounting requirements of our own Army and Navy, the British, the Russians and the Chinese. It is to help oil companies meet these wartime needs that government agencies have placed limits on the quantity and quality of gasoline for civilian use.

Come the invasion—if it isn't already in full swing by the time this is in print—your chances of getting better gasoline may be even slimmer. A single mechanized division uses about 18,000 gallons of high-quality gasoline every hour it is on the move . . and it's going to take a lot of divisions and a lot of hours to reach Berlin.



"Tailpipe halitosis"—smelly exhaust gas—is likely to stage a comeback with the use of lower volatility gasoline. Condition can usually be corrected through improving distribution. Carburetors should also be checked for correct calibration. Manifold must have right amount of heat and in some cases must be protected from drafts with manifold shields.

Your tire troubles were multiplied by African sand and Pacific coral.
Rapid wear of airplane tires in landings on coral and hot sand fields upset Army calculations. Tire manufacturers had to rush replacements all through 1942 and 1943.

Late Flash

Watch Congress for action on post-war road construction. H.R. 2426, now before House Roads Committee, calls for authorization to construct roads and highways at the rate of \$1,000,000,000 a year for three years, beginning with the close of the war. Definite action is expected soon, as objective is to clear up necessary preliminary legislation to avoid post-war delays.

FORTY-NINERS GOLD!



You will make a WELCOME TRADE, too, when you let your Jobber exchange your ailing fuel pumps for

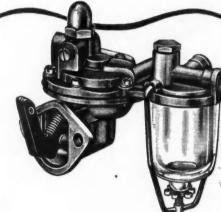
change your ailing fuel pumps for Factory Tested

AIRTEX

Exchange

FUEL PUMPS

Remember-Your profits climb with the AIRTEX line



"packed" in from far across the mountains. A miner was always glad to trade a generous portion of gold for a sack of flour or a side of bacon. That was always

a welcome trade.



Assembled with AIRTEX Diaphragms Guaranteed for 50,000 Miles



AIRTEX AUTOMOTIVE CORPORATION, FAIRFIELD, ILL.

OSHKOSH 4-WHEEL



THE REAL TEST OF EQUIPMENT

We all have our pet notions about this and that kind of equipment. There are theoretical tests that prove some things. But the real test that answers all questions is the actual on-the-job comparison of results.

That's the kind of check-up OSHKOSH invites to prove its efficiency, dependability and economy of operation on such jobs as shown here. Present equipment is the result of 25 years experience in serving this field.

This winter OSHKOSH trucks and tractors, pushing all types of snow removal equipment, are

working on far-flung military roads and air bases as well as highways throughout the U. S. snow belt.

When the war is won, expanded facilities will enable us to serve our users even better than before. There will be important engineering improvements of interest to Highway Departments, Airports and other users of heavy duty equipment.

The Government has recently authorized us to build a limited number of trucks for civilian purchase. Inquiries are invited.

SERVICE STATIONS AT CONVENIENT POINTS THROUGHOUT THE U. S.

OSHKOSH MOTOR TRUCK, INC.

OSHKOSH. WISCONSIN

CABLE ADDRESS: "OSHMOTOR" OSHKOSH

Ration points for America's tables travel on Kellys!



TRUCK OPERATORS hauling vital loads these days are learning to count on Kelly Tires because Kellys are tough!

Kelly Tires' reputation for dependability and toughness has been building for 50 years. First, better rubber tires for carriages, then for cars and trucks.

In World War I, Kelly Kats amply demonstrated their superior stamina and traction. Proved and improved as constantly tougher jobs were found, pre-Pearl Harbor Kelly Armorubber Truck Tires were still being selected by experienced operators for lower cost per ton mile of service. Today as our wartime truck transportation gradually shifts onto synthetic rubber, the compounding experience and careful workmanship that is part of every Kelly Tire still make Kellys your best bet for Dependable Performance.

And you'll find the Kelly Tire Dealer is a specialist in making precious tire carcasses last. His expert inspection, repair, and recap service will help you through these critical days of tire scarcity.

To solve tough tire problems, rely on the Kelly Dealer and those tough Kellys—the tires that have been dependable for 50 years.

THE KELLY-SPRINGFIELD TIRE COMPANY, CUMBERLAND, MARYLAND

I PREDICT...



After the war you will travel more than you ever have. And one of the developments that will make it possible is the new helicopter air bus. This remarkable aeronautical achievement ushers in a really new mode of transportation that will enable you to make short air trips quickly, inexpensively and in complete comfort. Present bus terminals will be adapted as landing ports and maintenance hangars so you will take off and arrive in central sections of cities and towns. The multi-passenger helicopter air bus, already endorsed by authorities as entirely practical, will bring air travel to millions of persons and thousands of communities that now lack this form of transportation. When you buy War Bonds today remember they will enable you to experience this and many other marvels in tomorrow's world!

Note: The Weatherhead Company, one of the oldest and most important manufacturers of parts for the aviation industry, is prepared for the day when its four plants will again be contributing to aviation's peacetime needs.

Look Ahead with

Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND, OHIO Manufacturers of vital parts for the automotive, aviation, refrigeration and other key industries.

Plants: Cleveland, Columbia City, Ind., Los Angeles Canada—St. Thomas, Ontario



PRES. Write on company letterhead for "Seeds Of Industry" a history of The Weatherhead Company, its many facilities and discouled broducts

They ran their trucks 8 years

The Public Warehouse Co., put 10 years into proving that trucks can be worked hard but kept young!

VER TEN YEARS ago the Public Warehouse Co., Inc., of Oklahoma City, Okla., began using Veedol Oil exclusively in their equipment.

Their fleet is a busy one. With never less than 5 tons per load, and carrying up to 10 tons, their trucks average over 50,000 miles a year. And, says C. B. Robertson, president, "We have equipment in service as many as 8 years with but one major overhaul". (The truck pictured to the right traveled over 200,000 miles without a major motor overhaul.)

Mr. Robertson adds: "Such experiente in motor truck maintenance is convincing us that Veedol has played an important part in giving us dependable and trouble-free service."

On similar records, Veedol has convinced a host of other fleet operators of the same thing. Its tough, wearfighting ability to keep motors young is a mighty big item today. It's helping keep operators in business by protecting irreplaceable equipment.

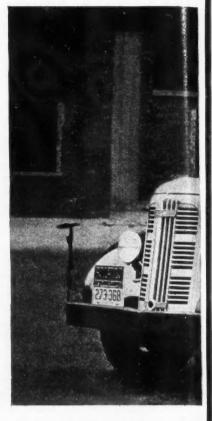
There's another big help you can have, too. It's the whole bag of tricks in keeping trucks fit in spite of wartime conditions...

Here's a blueprint for making YOUR equipment last!

Co-operating in the O.D.T. program, the engineers of Tide Water Associated have perfected a Preventive Maintenance Plan for trucks and buses. It took months to work out, but it's a sure-fire way of getting more miles, better miles, and cheaper miles out of your rolling equipment.

Many very large fleet owners already have given the Veedol Preventive Maintenance Plan a hearty O. K. But any size fleet can use it profitably. For the Plan is tailored to fit your exact number of units.

The cost? The Plan itself costs you nothing. A Veedol representative will deliver it, and go over it with you, without charge. The necessary forms will be supplied you at cost—only 18¢



per truck or bus, with a one dollar minimum.

cia

su

M

Get a staff of engineers—for NOTHING!

Here's something else! If you have an unusual maintenance problem that has baffled you, write the Engineer

Now available to commercial users— THE VEEDOL 90 SERIES OILS

Tide Water Associated has now expanded its production of Veedol 90 Series Oils to the point where a limited volume of these oils may be used for civilian commercial activities, where engines, both gasoline and Diesel, are required to perform under *Heavy Duty* operating conditions. These oils are now available in S. A. E. grades 10, 20, 30, 40 and 50.

The Veedol 90 Series Oils are 100% Pennsylvania Oils, containing additives which impart high dispersive properties as well as anti-oxidation properties to the oil. The nature of the oil, together with the above mentioned properties, tends toward:—

- The prevention of products of combustion (soot, gummy materials), and finely divided dirt particles from coalescing, forming heavier deposits which settle out in the engine, tending to stick rings, plug oil leads, gum valve stems, etc.
- 2 An oil more resistant to oxidation by the catalytic effect of the metal which the oil comes in contact with, thus decreasing the formation of harmful organic acids corrosive to the newer alloy bearings.
- The holding in suspension of finely divided carbon, soot, dirt, etc., not permitting them to build up into harmful deposits (sludges). These suspended materials are drained out with each oil change, resulting in an engine which is almost factory clean.
- 4 Easier starting and more rapid distribution of oil throughout the engine under cold starting conditions.
- 5 Lower oil consumption in an engine under all operating conditions.

Remember, the Veedol 90 Series Oils are made from the finest of 100% Pennsylvania crudes, and retain all the natural advantages which oils made from these crudes possess.

with but one major overhaul!



Consultant Staff, Tide Water Associated. This group will study the details you give, analyze them, and make suggestions for the cure-free, gratis, for nothing!

ollar

ING!

e an

that

neer

Time's a-wasting! Your copy of the Veedol Preventive Maintenance Plan is ready for you. Drop us a line and tell us to have a Veedol representative call and go over it with you. And better do it today.

TIDE WATER ASSOCIATED OIL COMPANY

New York 17 Battery Place

Tulsa Thompson Bldg

VEEDO OILS AND GREASES

OIL IS AMMUNITION — USE IT WISELY



BUY MORE WAR BONDS



One of R. H. Macy & Company's great fleet of trucks which serves Macy's millions of customers in the New York metropolitan area. Boots Nuts were tested on trucks like this.

WHEN a company as pre-eminent as Macy's for its high standards makes such a favorable report it should be particularly significant to all fleet operators. For it is convincing proof that Boots All-Metal, Self-Locking Nuts can save thousands of dollars in postwar fleet operation.

Boots Nuts will materially reduce maintenance costs on trucks

and buses by eliminating periodic tightening check-ups on: spring clips; body bolts; clutch pedals; universal joints; brakes; axle supports; wheel nuts—wherever vibration loosens ordinary fastenings.

Boots are one-piece, all-metal, hence unaffected by the corrosive action of oil, water and chemicals. They can be used again and again without accelerated locking loss.



ROL-TOP. This nut, for the duration used exclusively on all types of aircraft engines, is the type of Boots All-Metal, Self-Locking Nut mentioned in the above statement.

BOOTS

SELF-LOCKING NUTS

"There's No Excuse for a Nut Shaking Loose"

Boots Aircraft Nut Corporation . General Offices, New Canaan, Connecticut

30

"For the first time accurate records of tire costs per mile"



"The 'U.S.' Transportation Maintenance plan has made it easy to follow tire performance even when tires are moved from one vehicle to another in our fleet. For the first time, we have an accurate record of our tire costs per mile. And we've cut operating expenses too. Regular inspections have helped us recap at the right time and keep duals properly matched to reduce road delays and get longer tire mileage."
CASE HISTORY NO. 56

This fleet operator (name on request) depends on "U. S." Transportation Maintenance to help him deliver record tonnage on schedule at the lowest possible tire cost per ton-mile. And it is doing just that-for him and hundreds of other operators throughout the country.

Whatever the size of your fleet, whatever the type of equipment you use, put "U. S." Transportation Maintenance to work. It saves rubber, catches tire trouble before it happens, reduces operating costs and provides information that's helpful in making application for new tires. Call your "U.S." Truck Tire Distributor today.

TRANSPORTATION MAINTENANCE







UP-TO-DATE RECORDS

U. S. ROYAL FLEETWAY First choice of truck and bus operators who want

Serving Through Science



ED STATES RUBBER COMP



WHEN SUPPLIES MUST GET THROUGH!

On the Alcan Highway and in the laying of oil pipe lines on the Canol Project, hundreds of miles of grades, cuts, and fills had to be made, and supply services maintained, over the worst possible terrain.

Trucks had to go places where no motorized vehicles had ever been before. Only vehicles having traction applied through all wheels could get through.

On these projects, as on the "Big Inch" pipe line,

and for the toughest construction jobs in civilian and military services all over the world, Marmon-Herrington *All-Wheel-Drive* converted Ford trucks have proved their superior ability, dependability and economy.

These are the original All-Wheel-Drive conversions of standard mass production trucks—thoroughly tested before, and during the war. Investigate them now—and be prepared for the big reconstruction jobs ahead of us, when Peace comes.

* BACK THE ATTACK . BUY MORE BONDS! *

MARMON-HERRINGTON All-Wheel-Drive

MARMON-HERRINGTON CO., Inc., INDIANAPOLIS 7, INDIANA

Cable Address: MARTON

JOS. EVEI WILI JULI P. M

COMMERCIAL AR JOURNAL

with which is combined Operation & Maintenance Reg. U. S. Pat. Off.

Acceptance under the Act of June 5, 1934, authorized December 18, 1934.
Published monthly

Vol. LXVII

Philadelphia, March, 1944

No. 1

EDITORIAL DEPARTMENT

JULIAN CHASE, Directing Editor GEORGE T. HOOK, Editor

A. W. GREENE **Assistant Editor** EDWARD L. WARNER, JR. Detroit News Editor MARCUS AINSWORTH

JOHN B. YERCER Technical Editor JOSEPH GESCHELIN **Detroit Technical Editor** H. KOHLBRENNER Art Editor

Statistician L. W. MOFFETT, J. D. BROWNE & EUGENE J. HARDY Washington News Editors

EDITORIAL CONTENTS

Copyright 1944 by Chilton Company (Inc.)

FEATURE ARTICLES

Wage Incentive Plans for Fleet Shops	36
Fleet Experience With War Tires and Recaps	38
War Hauls Wait For Parts and Labor	41
Six Months of Manpower Training	42
A Highway Safety Carrier Cooperative	46
Body Experiment Doubles Sales, Halves Costs	47
Hayes' Hauls Harried by War Shortages	48
Report on Private Carriers' War Conference	50
Wartime Truck Operation 47,900,000,000 Miles	51
Trailers Link Plane Production Lines	52
Highways-for Post-War Prosperity	54
N. Y. Union Truck Terminal To Save 1,800,000	
Miles	57

DEBARTMENTS

Washington Runaround	d .	
Editorials		40
		44
		56
		62
		64

Automotive Division

Jos. S. HILDRETH, President and Manager JULIAN CHASE, Vice-Pres. G. C. Buzby, Vice-Pres.

OFFICES

OFFICES

Philadelphia 39, Pa.—Chestnut & 56th Sts., Phone Sherwood 1424

New York 17, N. Y.—100 E. 42nd St., Phone Murray Hill 5-8600

Chicago 1, Ill.—Rm. 916 London Guar, & Accident B'dg., Ph. Franklin 4243

Detroit 2, Mich.—1015 Stephenson Bidg., Phone Madison 2090

Cleveland 14, Ohio—606 Guardian Bidg., Phone Cherry 4188

Washirgton 4, D. C.—1061 National Press Bidg., Phone District 8110

San Francisco 5, Cal.—605 Market St., Rm. 708, Phone Douglas 9967

Los Angeles 1, Calif.—6000 Miramonte Blvd., Phone Lafayette 5525

SUBSCRIPTION RATES: United States and United States Possessions and all Latin-American countries—\$2.00 per year. Canada and Foreign—\$4.00 per year. Single copies—25 cents. April issue, \$1.00.

Owned and Published by CHILTON COMPANY (Incorporated)

0

Executive Offices Chestnut and 56th Streets, Philadelphia 39, Pa., U. S. A.

Officers and Directors C. A. MUSSELMAN, President

Vice-Presidents

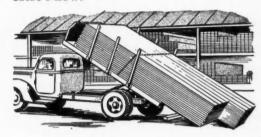
GEORGE H. GRIFFITHS EVERIT B. TERHUNE
WILLIAM A. BARBER, Trefeurer JOHN BLAIR MOFFETT, Secretary
PLLIAN CHASE
THOMAS L. KANE
G. C. BUZBY
HARRY V. DUFFY
CHARLES J. HEALE G. C. BUZBY CHARLES J. HEALE A booster hoist under ANY TYPE OF BODY spells SAVINGS

Lay that LUMBER down!

Have you ever unloaded lumber, stick by stick, carrying it back and stacking it in even piles? It's a splintery, time-consuming job.

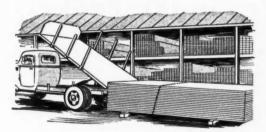
Central Lumber Co. of Wisconsin lays the load down all at once with St.Paul Booster Hoists at six of its yards.

Here's how:



Hoist is raised until ends of boards touch the ground. Skid is placed on ground under load.

Truck drives forward. Another skid is placed under load.



Truck drives away. Load is laid down on skids. No handling!

Please write us giving particulars of the essential work you'd like to use our Booster Hoist for.

Your stake or platform body can be converted.

BUY AN EXTRA BOND!

ST. PAUL HYDRAULIC HOIST COMPANY 2207 University Avenue, S. E. MINNEAPOLIS 14 MINNESOTA

JOS. S. HILDRETH



WHAT COUNTS NOW

Is the Proper Care of Your Trucks

BEHIND every International Truck on the job today is a sizeable investment in International SERVICE. It's SERVICE that catches little troubles before they become big ones. It's SERVICE that puts the ready to roll O.K. on your trucks and guards your home front operations.

International dealers and branches are doing their wartime best to help you prolong the life of your trucks. They take their service obligations seriously. They are set up to do a thorough, over-all job. Their investment in skilled servicemen, special tools and equipment, and Genuine International Truck Parts is your assurance that they are putting PROPER CARE of your trucks in first place.

Arrange with the nearest dealer or branch for a program of SCHEDULED TRUCK SER-VICE during the months ahead.

INTERNATIONAL HARVESTER COMPANY

180 North Michigan Avenue

Chicago 1, Illinois

BUY BONDS ... BUY MORE BONDS

INTERNATIONAL TRUCKS

COMMERCIAL CAR JOURNAL

Vol. LXVII, No. 1 MARCH, 1944

Order No. 10 Out Soon

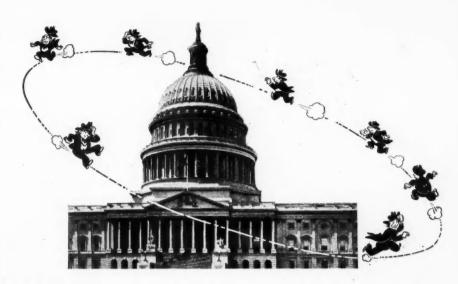
ODT is planning to have the month of March come in like a lion. Early in that month ODT Order No. 10putting the government into the business of operating Joint Information Offices-is expected to become effective. During the latter part of February the order was in the ODT legal department being redrafted in line with some of the suggestions made by labor and industry in the many conferences held during the last few months. Labor's demands were excessive but there is every reason to believe that the redrafted Order No. 10 will not show ODT behaving toward labor like a lamb. In the redraft the so-called "gypsy" operations of owner-operators will be controlled to protect for-hire operators. Operations of Household Goods Carriers will be covered by a separate order.

New For-Hire Order

There are indications that ODT is giving some consideration to the inconvenience caused the public when for-hire carriers go out of business over-night without warning. Complaints have been received that there is disruption of traffic when this happens. It may result in an order requiring, say, a 30-day notice of intent to quit, in which period transfer of the traffic to another carrier could be arranged and equipment provided, if necessary.

5 Per Cent for Civilians

The effort to get civilians a percentage of parts manufacturing facilities, where these are now devoted exclusively to filling military orders, has progressed to the point where a decision from high up in WPB is expected soon. This will take the form of an amendment to L-158—the replacement parts order — providing



WASHINGTON RUNAROUND

Order No. 10 Out Soon . . . New For-Hire Order . . . 5 Per Cent for Civilians . . . 70,000-Mile Ford Bearing? . . . Tin Bearing Help Wanted . . . 60,000 Bodies Okayed . . . 40,000 Trailers for Farmers . . . 5934 Third Axles . . . 4000 More Trucks in '44 . . . January Output Off 500

by GEORGE T. HOOK, Editor

that manufacturers may devote 5 per cent of man-hours or machine-hours in any 30-day period to producing badly needed parts without regard to priority. The Army succeeded in inserting a proviso that this should not result in the manufacture of more than 5 per cent of any one part.

L-106 Killed; L-270 Changed

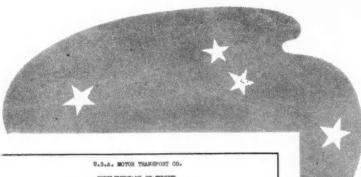
As predicted last month, the copper order (L-106) was revoked and copper is now available for all parts listed in L-158. Mention was also made that the shop equipment order (L-270) was due for changes. It can be said that the equipment schedules in L-270 have been juggled considerably and that the production of many man-hour-saving pieces of shop equipment has been recommended. The Army is still dying

hard on these revisions of WPB orders, pleading always that the manpower devoted to filling these civilian requirements is needed elsewhere.

70,000-Mile Ford Bearing?

The new Ford copper-silver-lead bearing is reported to have given phenomenal mileage in tests. According to Washington sources the new bearing ran 70,000 miles in Ford tests. This, according to these same sources, compares with 35,000 to 40,000 miles averaged by cadmium bearings. Ford is said to have patented this bearing. The fusing process is unusual. Ford has given assurances that it will meet production promises effective April 1 when the 90-day period for the manufacture of a special lot of cadmium bearings ends.

(TURN TO PAGE 66, PLEASE)



SUPPLEMENTARY STATEMENT CONCERNING OUR PROPOSED INCENTIVE PLAN

- 1. Workers to be covered 9 mechanics, 2 helpers
- 2. Basis for standard production rates PAST PRODUCTION RECORDS
- 3. Our production for the past four weeks (January 2 January 29)

Job or Operation	Week Covered	No. of Units (Jobs)	No. of Hours to Service the Units
A. Remove and	Jan. 2 - Jan. 8	4	12
replace	Jan. 9 - Jan. 15	2	7
differential	Jan. 16 - Jan. 22	5	14
	Jan. 23 - Jan. 29	3	9
	TOTAL	14	42
	AVERAGE TIME PER	UNIT	3 HOURS
B. Install rings.	Jan. 2 - Jan. 8	3	36
bearings and	Jan. 9 - Jan. 15	4	47
grind valves	Jan. 16 - Jan. 22	1	1.5
	Jan. 23 - Jan. 29	2	24
	TOTAL	10	120
	AVERAGE FILE PER	Units	12 HOURS
C. Remove and	Jan. 2 - Jan. 8	7	17.5
replace	Jan. 9 - Jan. 15	5	13
olutoh	Jan. 16 - Jan. 22	6	14.5
	Jan. 23 - Jan. 29	6	15
	TOTAL	24	60.0
	AVERAGE TIME PER	UNIT	Zg HOURS

4. Information concerning standard production rates

		-
Job Covered	Past Production Average	Standard Rate
A. Remove and replace		
differential	8	3
 Install rings, bearings and grind valves 	12	12
C. Remove and replace clutch	21	2)

- 5. Our present hourly rates are: mechanic \$1.00, helper 75¢
- 6. We propose to guarantee these rates if our application is approved.
- 7. We propose to pay a bosse on any of the jobs listed above where it is completed in less time than standard. To compute these bonuses we will simply multiply the time saved on such job by the guaranteed, hourly rate--21.00 for a mechanic. Fof for a helper. For instance, if auto mechanic shift removes and replaces a differential in two hours when the standard is three hours, he has awad one hour. For this he will be paid a bonus. The bonus will be computed by multiplying the hour saved times his bace rate, or \$1.00 total in this case.

This shows the form and the content of the statement that should accompany an incentive plan application

1. What is a Wage Incentive Plan?

A wage incentive plan is a method whereby your workers receive extra pay when they produce "extra" work. Auto repair shops that now pay their workers for "extra" production are already operating under incentive plans.

2. What Governmental Approval is Necessary Before an Incentive Plan Can be Installed?

If you have eight or more employees you will have to get the approval of the Regional War Labor Board before you can install an incentive plan. To determine whether or not you come within this rule you must count every employee you have, even though some of them—such as a bookkeeper or used car salesman —may not be affected by the proposed plan.

3. What is the Main Purpose of Incentive Pay Plans?

A major purpose is to increase production. If you need additional workers at the present time, you can solve this problem partially by proWage incentive plans make it possible for a worker to earn more money for producing more work. They are not a "cure-all" for an employer's manpower shortages, but, when carefully conceived and developed, they may do much to reduce manpower requirements

n

C

n

n

f

b

th

oi ha

b

ti

B

er

th

sk

80

iz

th

M

Wage Incentive

viding your employees with an incentive to produce more work. You cannot expect to get an extraordinary day's work out of a mechanic for an ordinary day's pay. You will have to provide him with an incentive to do this extra work—one that will mean more money in his pay envelope.

4. How Can You Afford to Pay Your Workers More Money?

If your workers produce more you can well afford to pay them for their extra effort.

5. What if You Have Less Than Eight Employees?

In this case, you can adjust wages without the approval of the War Labor Board, but, if you're thinking about installing an incentive pay plan, it will be to your advantage to use just as much care in developing your plan as the employer who will have to secure the approval of the War Labor Board.

6. What General Kinds of Incentive Plans Are There?

Generally speaking, there are two kinds of incentive pay plans:

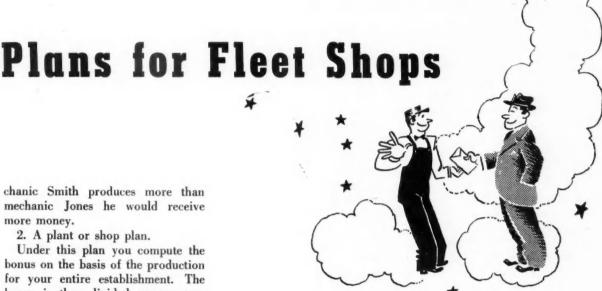
1. The individual worker's plan.

Under this plan each worker is paid a bonus in accordance with his individual production. Thus, if methrough getting added production from the workers now em-

ployed.

Incentive plans are definitely a part of the National War Labor Board's present wage stabilization program. The Board has held that "more money for more work" does not constitute a wage rate increase but is a means of rewarding a worker for his extra effort. The value of getting more production through wage incentives has also been recognized and promoted by the War Production Board.

The accompanying presentation on wage incentive plans has been prepared by the ODT Division of Transport Personnel with the help and advice of representatives of the automotive maintenance industry and staff members of the National War Labor Board. It answers some of the questions of the automotive maintenance employer who may be considering the feasibility of installing an incentive plan in his establishment.



Details of two kinds of bonus arrangements that can help reduce manpower requirements by getting more work from the men now employed, and how to get approval

bonus is then divided among your workers according to their job classification and basic wage rates.

7. Which Would Work Better?

That depends a lot on your set-up the kinds of workers you employ, their skill and experience, the nature of your business, etc. Both plans have worked successfully, but in general the plant or shop-wide plan has been recommended by the automotive maintenance men who were consulted. However, the War Labor Board does not recommend any particular plan. Each is judged on its own merits.

One of the most important advantages of this type is that it will enable you to place each worker on the kind of work at which he is best skilled. Moreover, a steady, conscientious worker will not be penalized because he is not capable of turning out work as fast as some of the others.

8. How do Incentive Plans Work?

If the workers perform a job in less than standard time they are paid

a bonus for the time saved. For example, say the standard time for installing rings and bearings and grinding valves is 12 hours in your establishment. Your mechanic does the job in 11 hours. His base rate of pay is \$1 per hour. He does the job one hour faster than standard, therefore, he receives a bonus of \$1 for the job. If you have a shop-wide plan the \$1 would be put in a "kittv" along with the bonuses of every employee. At the end of the month the total amount would be divided among the workers according to a previously planned arrangement.

9. How Do You Establish Time Standards for Repair Work?

There are two ways whereby you can determine what is the normal or standard production time for a given operation:

1. by a time study, or

2. by your past production records.

10. What is a Time Study?

A time study is a study of a job by breaking it down into separate steps and then timing each step. In doing this, reasonable allowances

(TURN TO PAGE 88, PLEASE)

y o

e

0

is

AL

Fleet Experience With War Tires

Results of a limited study show that war tires in sizes 8.25-20 and larger are giving 28 to 53% less mileage and war recap stocks 40 to 57% less

N this study of wartime tires and wartime recapping stock, 30 fleets—operating 2055 trucks and truck-tractors and 1402 trailers—have revealed experiences which indicate that:

1. "AA" tires give from 28 to 42 per cent less original mileage (before any recapping) than pre-war tires, depending upon size;

2. "AB" tires give 51 to 53 per cent less original mileage than prewar tires, depending upon size;

3. "A" recapping stock gives 40 per cent less mileage than pre-war recapping stock;

4. "C" recapping gives 57 per

cent less mileage than pre-war recapping stock.

This study conducted by COMMERCIAL CAR JOURNAL cannot pretend to be anything other than a limited report of the experiences of the operators who submitted data. The experiences cited may be typical of the experiences of thousands of fleet operators but this cannot be stated as a fact. All that can be claimed for this study is that in its limited scope it reveals an alarming condition; and that it adds fuel to the fire being built under the Rubber Director's Office to initiate remedial action to halt a serious waste of vital materials

and manpower and a dangerous increase in the cost of operation.

8.2

the

wit

the

pu:

mi

for

of

COL

bee

ex

the

pir

tha

45,

for

tim

28

tire

less

This study was restricted to wartime tires in sizes 8.25-20 and larger because of reports that it was in operations using such tires that unsatisfactory experience was being encountered. The purpose of the study was to get facts that would support or refute the contention that

a. Despite assurances, wartime tires in sizes 8.25-20 and larger are less satisfactory than pre-war tires;

b. Wartime recapping stock is less satisfactory than pre-war stock;

c. Fleet experience indicates a waste of materials, manpower and money, and

d. Forecasts an even worse experience with synthetic tires—in their present state of development in these sizes—which should be avoided.

To a request for comparative data 143 fleet operators responded. The vast majority, as was to be expected, declared that in their operations they did not use tires of 8.25-20 size and larger.

Type of Operation and Number of Operator No. Operated		AVERAGE ORIGINAL MILEAGE EXPERIENCE				PREMATURE FAILURE EXPERIENCE (Without regard to Size of Tire)					
	and Number of Trucks and Trailers	Tire Size	Pre-War Tires	"AA" Tires	"AB" Tires	Type of Tires	No. Failures	Nature of Failures	Annroximate Mileage at Failure		
1	Motor Freight(80/41)	8.25-20 9.00-20 10.00-20 10.00-22	60,000 55,000 55,000 60,000	38,000 35,000 40,000 40,000	35.000 33.000 38.000 38.000	AA AB		Tread separation Tread separation	3-10,000 3-10,000		
2	Motor Freight (30/30)	8.25-20 9.00-20	57,500 74,000	40,000 50,000 60,000	N.E. 25.000 N.E.	AA AB	30 40	Rapid tread wear; bead failure; separa- tion; heating Rapid tread wear then bead failure	12-20,000 1-5,000		
3	Motor Fraints (2014)	10.00-20	Over 100.000	37.500	23.750	AB	7	Separation—both ply and tread	7-17.500		
4	Motor Freight (38/41) Motor Freight (15/19)	9.00-20 8.25-20	52,500 35,000	25.000	15.000	AA	10	Blow outs	2/4 of life		
•	Motor Freight (15/19)	9.00-20 10.00-20 11.00-24	35,000 35,000 40,000	20,000 25,000 29,000 20,000	15,000 18,000 22,000 19,000	AB	17	Blow outs	⅓ of life		
5	Motor Freight (50/75)	13.00-20 8.25-20 9.00-20	25,000 50,000 65,000 100,000	25,000 25,000 35,000 50,000	8,000 10,000 15,000	AA AB	50% 85%	Blown Blown	50% 50%		
6	Motor Freight (130/255)	10.00-20 8.25-20 9.00-20	20,000	18,000 23,000 21,000	16.000 21.000 20.000	AA AB	10% 20%	Heat blows Tread separation; shoulder break; rapid tread wear	15,000 10-18,000		
7	Motor Freight (133/170)	10.00-20 8.25-20 9.00-20	22,000 42,500 52,500	32,500 42,500	25.000 30.000	AA AB	10%	Ply separation Shoulder separation	10-15,000 6-12,000		
9	Motor Freight (54/32) Motor Freight (115/50)	10.00-20 8.25-20 9.00-20 10.00-20	51,776 30,000 30,000 30,000	35,250 25,000 25,000 25,000	25,175 15,000 20,000 20,000	AB	15	Shoulder coming loose Very few failures; have lightened loads and increased tire sizes and rim sizes on road trucks	20,000		
10	Motor Freight (198/143)	9.00-20 10.00-20	64,107 73,068	43,600 30,007	43.394 55,300	AA AB	8 4	Separation—blew shoulder and center Separation—blew shoulder	4-5,880 5,020		
11	Motor Freight (60/23)	9.00-20	44,000	32,000	17,000	AA	11 35	Shoulder blows Shoulder and heat blows	20,000 50 mi5,000 800 1,000		
12	Motor Freight(56/59)	10.00-22	46,000	18,054	17,096	AA AA AB	47 88	Tread came off carcass Tread and shoulder cracks Tread and ply separation	12-16,000 17-24,000		
13	Motor Freight (122/74)	9.00-20	50,000	25,000	30,000	AA	40	Tread and carcass cracking	30,000		
14	Motor Freight (55/50)	10.00-20 9.00-20	60,000 70,000	30,000 N.E.	40,000	AB	25	Tread and carcass cracking	35,000 18,000		
15	Motor Freight(41/28)	9.00-20	50,000 40,000	35,000 25,000	N.E. 23,000	AB	150	Shoulder separation	18,000		

and Recaps



A number of operators using 8.25-20 and larger tires stated that they had had insufficient experience with wartime tires and recaps or that their records were inadequate for the purpose of making comparisons.

Still other qualified operators submitted data but in such incomplete form as to be useless in the making

of comparisons.

But 30 fleet operators submitted comparative statistics and these have been tabulated and appear in detail in these pages. One tabulation covers experience with wartime tires and the other deals with wartime recapping experience.

Size 8.25-20 Experience

Analysis of the mileages submitted by operators for 8.25-20 tires shows that whereas pre-war tires averaged 45.656 miles originally (that is, before any recapping) the "AA" wartime tires averaged 33,000 miles, or 28 per cent less. The "AB" wartime tires averaged 21,583, or 52 per cent

DATA PROVIDED BY FLEETS SHOWED THAT-

¶ In the case of 8.25-20 tires the wartime "AA" type averaged 28 per cent less original mileage, before any recapping, than the Pre-War type, and the "AB" averaged 52 per cent less.

¶ In the case of 9.00-20 tires the wartime "AA" averaged 52 per cent less original mileage than the Pre-War type, and the "AB" averaged 51 per cent less. ¶ In the case of 10.00-20 tires the wartime "AA" averaged 42 per cent less original mileage than the Pre-War type, and the "AB" averaged 53 per cent less. ¶ Premature failures of "AA"

and "AB" tires were due to tread separation, rapid tread wear, shoulder separation, heat blows, sidewall bulging, cord separation, etc.

¶ Extra mileage procured by recapping showed that wartime "A" recap stock gave 40 per cent less mileage than Pre-War recap stock, and wartime "C" stock gave 57 per cent less mileage.

¶ A study of recap failures of "AA" and "AB" tires showed they were due to premature tread wear, tread separation, shoulder separation, cord breaks, and tread and shoulder cracking.

The average mileages reported ranged drastically. The lowest average original mileage reported for pre-war tires was 18,000 and the highest 87,500. For "AA" tires the

lowest was 18,000 and the highest 50,000 miles. For "AB" tires the lowest was 8000 and the highest 35,000 miles.

(TURN TO PAGE 70, PLEASE)

Type of Operation and Number of Operator Trucks and Trailers No. Operated	AVERAGE ORIGINAL MILEAGE EXPERIENCE				PREMATURE FAILURE EXPERIENCE (Without regard to Size of Tire)				
	Tire Size	Pre-War Tires	"AA" Tires	"AB" Tires	Type of Tires	No. Failures	Nature of Failures	Aporoximate Mileage at Failure	
16	Motor Freight(51/53)	10.00-20	40,000	20,000	N.E.	AA	5%	Blows	5,000
17	Motor Freight (49/57)	10.00-22 9.00-20 10.00-20	50,000 40,000 50,000	25,000 24,000 26,000	N.E. 21,500 23,000	AA AB	15 40	Cord separation; sidewall bulged Cord separation; sidewall bulged	Not given Not given
18	Motor Freight (25/35)	8.25-20 9.00-20	50.000 60,000	50,000 60,000	N.E.		100	No failures yet	
19	Meat Packing (49/5)	8.25-20 9.00-20 10.00-20	40,000 54,000 60,000	32,000 46,000 48,000	27,000 40,000 40,000	AB	2	Blow out; loose shoulders	24-28,000
20	Oil Field Equip (67/67)	8.25-20 9.00-20 10.00-20	60,000 50,000 40,000	40,000 35,000 30,000	30,000 20,000 20,000				
21	Contracting (57/2)	10.00-24 8.25-20 9.00-24	30,000 45,000 55,000	20,000 30,000 35,000	N.E. 25,000 30,000	AA AB	10 2	Blow out through tread Blow out	3.000 2,000
22	Wholesale Food (24/2)	11.00-20 8.25-20 9.00-20	50,000 87,500 100,000	25,000 50,000 60,000	N.E. 35,000 35,000	AA AB	20% 30%	Blow outs Bruise very easy	25-35,000 23-35,000
23 24	Truck Leasing	8.25-20 8.25-20 9.00-20	45,000 50,000 50,000	30,000 40,000 40,000	N.E. 20,000 20,000	AA AA	10%	Blow outs Blow outs	24,000 10-15,000
25	Dairy Products(197/5)	8.25-20 10.00-20	18,000 22,000	N.E. N.E.	9,000	-			
26	Dairy Products(94/0)	9.00-20 10.00-20 11.00-20	50,000 60,000 60,000	8,500 8,500 8,500	N.E. N.E. N.E.	AA	N.G.	Blow outs; fast wear	5,000
27 28	Meat Packing (29/0) Oil Field (80/60)	16.00-24 8.25-20 10.00-20	55,000 12,500 15,000	N.E. Record Record	25,000 incomplete incomplete	AB AA AB	5 6 10	Blow outs Blow outs Blow outs	1-10,000 Under 100 500-1,500
29	Bakery(46/1)	11.00-20 8.25-20 10.00-20	12,500 40,000 70,000	Blew out 20,000 30,000	N.E. N.E.		-		
30	Petroleum	10.00-20	115,000	35,000	25,000	AA AB	13	Blows; split down center groove Blows; fire on front	7-20,000 5-15,000

Abbreviations: N.E.-No Experience. N.G.-Not Given.



The Tire Problem of Over-the-Road Operations

THE tire problem, as it applies to over the road operations in which the larger sizes—8.25-20 and up—are used, is perplexing in the extreme. Judging by the experience of certain operators with the war brand of tires and the difficulties many of them are having in getting new tires, it is phenomenal how they manage to get along.

A number of surveys—all of them limited in scope—have been made of war-tire performance and all of them agree that the "AA" and "AB" war tires give less mileage than pre-war tires. The results of the surveys vary only in the degree of difference.

A group of large operators within the American Trucking Association made some studies and came up with the astounding claim that while both types of war tires were definitely inferior to pre-war tires, the "AB" was out - performing the "AA." This prompted the National Council of Private Motor Truck Owners to survey a few of its members and the results, according to a well-posted informant, tended to corroborate the ATA findings.

This was too much for the Rubber Director's Office. It got to work and made a survey along lines prescribed by its Tire and Tube Industry Advisory Committee. In all 40 over-the-road operations were studied. But only in five of the operations, according to the Rubber Director's privately circulated report of the survey, was there sufficient information to warrant the conclusion that "AB" tires are giving 75 per cent of pre-war mileage. The report states that there were not sufficient take-offs to give an "AA" figure but the showing of "AA" tires tended to be better."

The Rubber Director reaches the conclusion, on the basis of this inade-

quate and curiously reported survey, that "no special action on the part of the Rubber Director's Office is necessary beyond the moves already taken." The Rubber Director, in short, feels that in making the change from "AB" to "AA" tires and in making rayon available as of Jan. 1, 1944, he has done all that he can do and the future of war tires is in the lap of tire manufacturers.

At the suggestion of a Federal agency, the Commercial Car Jour-Nal also conducted a survey of war tire and recapping experience which is reported in detail elsewhere in this issue. This survey does not pretend to be more accurate than the others. But it is much more informative and presented in greater detail than the Rubber Director's report. It differs

widely with the Rubber Director's survey. Whereas the RDO survey showed "AB" tires giving 25 per cent less mileage than pre-war tires, the best "AB" showing made of any size tire in the CCJ survey was 51 per cent less mileage.

fer

giv

sh

pe

are

sli

50

pr

no

br

an

qu

are

ag

lov

en

fou

cor

ton

cor

equ

ana

of

iur

of

oui

get

we

fer

out

a

ma

rep

par

Pu

lie

MA

If the truth, as it applies to overthe-road operations as a whole, lies somewhere between the extremes of 25 per cent and 51 per cent, the condition is sufficiently serious to warrant a less complacement attitude on the part of the Rubber Director's Office.

Manpower is being wasted. Vital materials are being wasted. The cost of operation has increased dangerously. The financial plight of many of the larger for-hire operators is serious.

This is no time for taking satisfaction in the results of a five-operations survey and concluding that action previously taken is sufficient. None of the surveys can be considered conclusive. Collectively they indicate that now the Rubber Director should bestir himself and re-study all the factors that make up this particular tire problem.

ODT and Plans for 1945 Truck Production

W HILE it is of no value to them in solving their current equipment problem, truck operators will get some consolation out of the news that although 1945 is 10 months away, plans for truck production next year are already afoot. It took some time for Federal agencies to learn the lesson of experience, but the lesson has penetrated and they now realize that truck production plans must be formulated at least nine months before they become effective.

The Army is expected to order at least as many trucks in 1945 as it has on order for 1944. The question before Federal personnel having to do with civilian truck needs is: Shall we ask for no more trucks than we think we can get? Or should we ask for as many as we know that we need?

We do not know for a certainty

how the ODT proposes to answer this question, but it would seem to be the wiser course for ODT to bear in mind that its primary function is to attend to the needs of truck transportation and leave to others the responsibility for refusing to recognize those needs

Accordingly, if there is a need for 600,000 or 700,000 motor trucks ODT should ask for that many trucks. If there is a need for 50,000 trailers, ODT should go on record for that many.

What WPB and the Army do with ODT's request is something that WPB and the Army must answer for.

So far ODT's skirts have been clean where congressional investigators have delved into dirty linen. The only way to keep them clean is to appraise transportation's needs honestly and to support those needs fearlessly and vigorously.

WHY WAR HAULS WAIT

"We can hardly calculate the extra cost burdens from using inferior parts. Main and connecting rod bearings, for example, give an average of 30 per cent shorter service.

"Valves are the worst offenders to date. We get less than 50 per cent of former mileage.

"Fan belts of wartime quality are 50 per cent below pre-war belts. They rub off fast, then slip, and have to be replaced.

"Wartime clutch linings give 50 per cent less mileage than pre-war quality. The material is not as good. The riveted seams break out all around.

"As for rear axles, ring gears and pinions break with more frequency. Delays in getting them are intolerable. Axle shaft breakage also is greater, caused by lower quality, not by inexperienced drivers."



e

e

er

or

KS

00

rd

th

at

r.

en

a-

en.

18

de

ds

AL

As an over-the-road common carrier, we operate 34 trucks, 46 tractors, 56 semi- and 8 four-wheeler trailers. War materials comprise 90 per cent of our annual tonnage. Our maintenance shop is complete with all necessary garage equipment, lathes, drill presses, forge, and small tools to do practically all of our major overhauling in conjunction with an economical program of preventive maintenance.

But today, the very existence of our fleet is threatened by forces beyond our control. First, delays in getting parts—delays which run into weeks and even months. Second, inferior parts which wear out, burn out or blow out prematurely. Third, a critical shortage of mechanics, made worse by the more frequent repair jobs which poor quality of parts sets up in our aging trucks. Putting it bluntly, unless we get relief from these three major obstacles



Author Sculley points to an overhauled engine waiting for a crankshaft

War Hauls Wait For Parts and Labor

Poor quality parts, delivery delays and manpower shortage threatens to decommission quarter of common carrier's fleet

by M. R. SCULLEY

Garage Superintendent, Michigan Interstate Motor Freight, Inc., Kalamazoo, Mich.

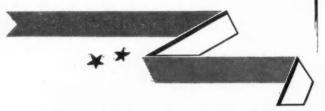
soon, at least one-fourth of our trucks will have to go out of circulation.

It is understating the facts to say that the time lost waiting for parts is 50 per cent above normal. Even the lack of one minor part will keep a truck idle—delaying transportation of material just as completely as the lack of an axle or engine assembly.

Here is an example of how our maintenance costs are mounting due to these delays, and how they retard the war effort. One of our diesel trucks was idle for three weeks waiting for a starter to replace the one worn out. But the urgency of getting out some important materials was so great that we took a chance and sent it out on the trip. Unfortunately, the starter failed on the road. And a diesel without a starter is no good.

We had a send a competent mechanic on a 90-mile round trip with a service truck to get the diesel going. Two men, the mechanic and the truck driver, were on non-profit schedules for that day—all because of parts shortages.

(TURN TO PAGE 92, PLEASE)



"Chief handicap that the Detroit Truck Drivers' School has to overcome is the lack of potential trainees.

"Fifty-one per cent of the men enrolling in the two-week course did not complete it, due to incompetency or taking other jobs.

"Truck fleet operators have found it difficult to compete with the higher wages of war plants.

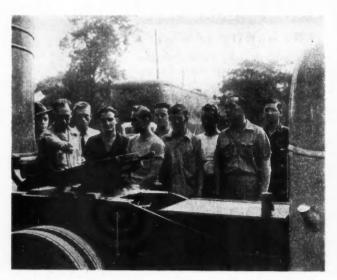
"Sixty trucking companies signed training agreements, but only 17 sent trainees through the Center . . . Due chiefly to the fact that potential trainees cannot be found.

"Women trainees have not been considered for the school because Detroit truckers found them unsuited to most city operations . . . Also, over-the-road driving of tractor-trailer combinations with heavy loads is too arduous for women.

"Drivers need not be enrolled as members of the AFL Teamsters' Union while attending school. Thus, a sponsoring company has no assurance that a trainee will drive for it when he completes the course.

"The school for training automobile mechanic apprentices and emergency repair specialists has not been a success . . . It opened in July and ran for five months until suspended in mid-December for lack of trainees.

"Several reasons are given... Truck line mechanics and shop workers have been working a 54- to 60-hour week, so they have little time, enthusiasm or incentive to attend school."



First class of Detroit's Driver Training School watches proper fifth-wheel hook-up as explained by Instructor Merritt



Loading platform was simulated and trainees got instructions and practice in proper method of backing up trailer



Six Months of

ETROIT'S Truck Driver's Training Center, one of the first such projects in the country, completed the first six months of operation with a record of 169 enrollees and 71 graduates. Chief handicap that the school, sponsored by the Michigan Labor Management Committee for the trucking industry in cooperation with the War Manpower Commission, has had to overcome is the lack of potential trainees. Fifty-one per cent of the men enroll-

ing in the two-week course did not complete it, due to incompetency or dropping out to take other jobs. Detroit has been a critical labor area for some time, and the caliber of men attracted to the truck driver training course has not been as high as could be desired by the sponsoring trucking companies.

The truck operators pay 75 cents an hour to trainees during the 96hour training period, and then a starting wage of 95 cents an hour if the men are qualified to drive a truck. In compaarison, many Detroit war plants have a starting wage of 80 to 90 cents per hour for common labor, with a 5-cent raise after 30 days, while other jobs paying higher rates are open to new employes after short training periods. War industry also pays overtime after 40 hours of work in a week, while overtime in the trucking industry starts after 54 hours for city drivers and 60 hours for over-the-

Tra

roa

ato

pet

pla

lah

a r

mi

De

Un

ing

Ma





Instructor Smith watches as trainee learns to back tractor to semi-trailer. All equipment used was loaned to the School

Edson Smith, driver for George F. Alger Co. and 1938 and 1939 ATA rodeo champion, hooks tralier for trainee



Trainee, holding a pot flare, is being shown the proper method of setting a fusee as part of the training course



Detroit's project handicapped by low caliber of available manpower; too low starting wage rate; lack of restraint of transfers to war plants; few stay on job after training



by E. L. WARNER, JR.
Commercial Car Journal Detroit News Editor



Manpower Training

road drivers. The truck fleet operators have found it difficult to compete with the high wages of the war plants, especially with a dwindling labor supply and in-migrants held to a minimum by War Manpower Commission rules that discourage labor migration.

Sixty trucking companies in the Detroit area have signed training agreements with the AFL Teamsters' Union for the Truck Drivers' Training Center but only 17 have availed

themselves of the opportunity of sending trainees through the Center. This has been due chiefly to the fact that the labor supply, compared to demand, has been so limited in the Detroit area that potential trainees cannot be found. There apparently is a reluctance on the part of some operators to gamble with a \$72 outlay to train a potential driver who may prove to be a failure after actually going on the road for the company. This reluctance probably is

increased by the general class of applicants seeking driver jobs today. Companies that might gamble with potential driver candidates in normal times hesitate to do so today.

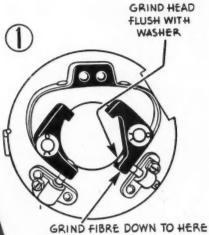
Women trainees have not been considered for the school because Detroit truckers have found them unsuited to most city operations, due to limitations placed by state law on the amount they can lift. They also have found that over-the-road driving of

(TURN TO PAGE 146, PLEASE)

e n-

s.

Commercial Car Journal will pay \$5.00 for acceptable shop hints and \$5.00 for unusual parts salvage tips. Send in as many ideas as you have to the editor. Don't underestimate your ideas. Let the editor be the judge. A photograph or a rough sketch and simple explanation in your own words are enough. CCJ will polish them up for publication. Use this opportunity to earn extra money to buy SHOP & SALVAGE HINTS more War Bonds to "Back the Attack."



po

on

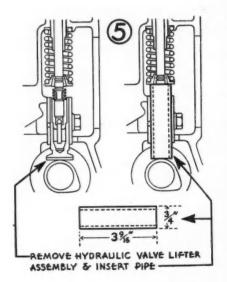
so

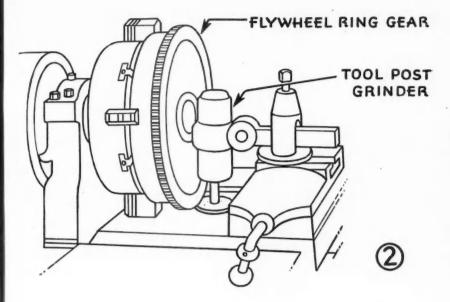
the

the

re tal on th

USE WASHER ON BOLT TOP 00 % RIVETS 9 "HOLES





DIAPHRAGM O O O CUT CAUSED BY BROKEN RETURN SPRING

Salvaging Ford Points by Budd Shaulis Continental Baking Co., Norristown, Pa.

As a rule Ford V8 distributor points become burned and pitted on one set of points, and the other set is like new. Points made for 1937 Fords, and up to the last model, are so constructed that half sets are available for replacement. However, from the 1932 model to 1937, the two arms are mounted on one strap, making it necessary to discard the good with the bad.

We are salvaging and successfully re-using the earlier Ford points by taking two sets that are bad on the one side and making a good set from them. This is done as follows:

First grind rivet head on the opposite end of the contact point. Grind it flush with the washer. Next, take a ½-in. stove bolt nut, clamp it in a vise, and place the bad point on the nut with the contact point in the nut hole. Now take a small punch and drive the point through the fibre arm. Care must be taken to avoid rough edges before driving the point through the spring steel, as it might split.

The same procedure is used with the other set, except instead of removing the bad point, remove the good one. To provide sufficient length to the point, grind the fibre arm on the back side, so that the rivet can be turned over.

The final step is to insert the point into the fibre arm, put a washer over the end, place the flat part of the point on a hard surface, and rivet it with a small peen hammer.

2. Salvaging Flywheel Ring Gears

by Jack Reese American Can Metropolitan Garage Jersey City, N. J.

Due to the present shortage of certain replacement parts, we have devised a method of re-using damaged ring gears. All that is necessary is a lathe and a tool-post grinder.

First mount the flywheel in the lathe, and obtain the correct mesh angle for the grinder from a good tooth. Use a suitable dresser and shape the stone to this angle.

Remove the flywheel from the lathe, and, with a drift or press, remove the ring gear. Reheat the ring gear and replace it in a reversed position on the flywheel.

Remount the flywheel in the lathe, and grind new bevel. An error can be avoided by using a tooth rest, or a piece of 1x1/16-in. flat stock may be clamped on the bed and used as a tooth stop.

Time required for this job is about 3 hr. The life of this repair is equal to a new gear.

3. Air Brake Diaphragm Repair by Howard L. Kline Beth-Allen Sales Co., Allentown, Pa.

When an air brake diaphragm becomes damaged, as they sometimes do by the return spring used in the diaphragm type air suspended chamber, and no replacements are handy, try this for an emergency repair: Take an ordinary hot patch, as used for tube repair, and vulcanize it over the cut. It works well.

4. Battery Inspection Time Saver by M. J. Cloonan The Pure Oil Co., Dawes, W. Va.

Inspection of batteries is hampered by the necessity of removing the entire floorboard in certain makes of trucks. To save time and simplify the job, I cut the floorboards with a hack saw, as shown at the left of the

accompanying sketch.

It is inadvisable to leave the cut sections without support, so I riveted two strips of sheet metal to one of the sections, as shown at right in the illustration. The strips are $1\frac{1}{2} \times 10$ in. for the upper part, and the lower is an inch longer, to make installation easier.

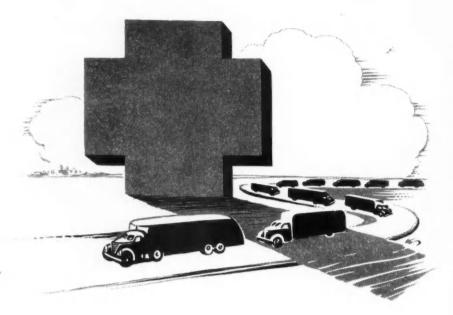
I find that this does not weaken the floor, and it certainly is a great convenience not only for battery inspection but for any work under the cab floor.

5. Removing Tight Valve Keepers by Lonnie V. Kyker ET & WNC Motor Transportation Co. Johnson City, Tenn.

We have several WA22 White Trucks in our fleet that have hydraulic valve lifters. Recently, some of the valve spring keepers became stuck so tight that they could not be removed in any normal way with regular tools. We did the job this way:

We removed the hydraulic valve lifter assembly and cut a piece of 3/4-in. pipe 3 9/16 in. long. Then we placed one end of this pipe on the camshaft and the other end under the valve spring retainer. Now, with the pipe held in place, we turned the

(TURN TO PAGE 136, PLEASE)



A Highway Safety Carrier Cooperative

15 over-the-road fleet operators join in unique safety plan and profit by drop in accidents, maintenance and running time

by H. H. SLAWSON

THE exigencies of a war-torn world have given tremendous new meaning to that little word "cooperation." By teaming up and working together on matters of common interest, bitter business competitors are learning that things can be accomplished which were hitherto thought impossible.

In the trucking field this new spirit has been manifested chiefly in the now familiar Joint Action Plans for conserving equipment and speeding up war freight transportation. But these plans are not the sole demonstration of the new movement's advantages. Out in the Middle West a group of 15 motor carriers, operating between Chicago and Wisconsin points, and the Twin Cities of Minneapolis and St. Paul, have pooled their resources to promote a safe operations system believed to be without counterpart anywhere in the motor transport world.

As individual carriers, operating 10, 15, 20 trucks, they were financially unable to conduct their own safety programs, as advocated by the National Safety Council and the American Trucking Associations, Inc.

So they chipped in to share expenses, hired two safety engineers,

set them to work scouting the highways over which their trucks travel, and commissioned them to find out the weaknesses and the bad driving practices of their drivers, to the end that improved operating efficiency and conservation of equipment might be attained.

un

eve

for

tin

Wa

thr

ing

hut

lish

nee

we

ver

tho

par

ous

per

sol

the

nai

inc

yo:

ing

lin

me del

jus

ne

bu

cui

wł

ha

on

re

tic

Launched in April, 1943, by the Illinois-Minnesota Motor Carriers' Conference, Inc., the scheme has long since passed the experimental stage and is amply demonstrating that, even in the matter of training drivers to reduce accidents and keep equipment rolling for victory, cooperation can produce outstanding results.

Let's go along with one of those safety engineers and see what happens. We're riding in the car provided for his use by the sponsoring carriers and are travelling in heavy early morning traffic along a highway leading into Chicago. Up ahead the engineer spots four trucks, three of them belonging to members of the Conference. They're spaced 50 to 100 ft. apart. It's a hazardous situation, one that could produce an accident and, if it had been in Wisconsin. where an interval of 300 ft. is required between trucks on the highway, it would have been a law violation. Moreover by clocking speeds, he determines that they are moving at 45 mph.

(TURN TO PAGE 120, PLEASE)

Specimen of form used by safety engineers to report driver safety violations

Observation	Report	4000
ILLINOIS-MINNES CARRIERS CONF	OTA MOTOR ERENCE, Inc.	Nº 4826
ome		
Drote	of	Your vehicle
uck or Trailer License N	Truck o	or Tractor No.
ailer No		on Route No
near) the city of		State
signer observed		
	report requiring the ope	castan id this publishes
Below is a detailed	1	Market St. St. St. St. St. St. St. St. St. St
ONDITION OF VEHICLE	DRIVER	ROAD CONDITIONS
ead Lights	Coreless	Dry
nil Lights	Speed Max. Min.	Wet
iop Lights		Muddy
lorker Lights	Wrong Side of Road	Seow
lirror	Possing Trolley	ley.
effectors		Visibility
cense Plate	Passing on Curve	Hill
N. R. CROSSINGS	Passing on Hills	Curve
lopped	Passing Wrong Side	Level
lowed Down		WEATHER
TURES	Fails to Signal	Clear
mooth	Thru Salety Zone	Cloudy.
obnic Shows	Thru Arterial	Reiny
roper Inflation		
nder Inflated	Follows too Closely	
Theels Wobble	Cutting Corners	Foq
EMARES: (Use other side	(f nocessary)	

PURE coincidence and the war restrictions have taught us a lesson in delivery economy and showed us how our delivery costs per dollar of sales can be slashed. The unusual situation that opened our eyes to the better use of delivery manpower and trucks may be of interest to others who are planning now for after the war.

it

nt

le

p-

0-

g

ee

1e

to

a-

i-

n.

e-

h-

ls,

ng

We have been accustomed to getting more volume each year, ever since Carroll's Laundry opened up in Washington, D. C., in 1930. All through the trying depression years, we showed gains each year. Washington's population increased during those years and it would be natural to attribute our growth to that fact, but there were plenty of old, established laundries here to handle the needs of greater population. Since we did, and still do, little or no advertising, we feel that our success in those lean years indicates that we turned out a good bundle, to use the parlance of the trade.

World War II has hiked Washington's population beyond any previous dreams. Some estimate it at 300 per cent of the 1930 figures. In our case, new customers come to us unsolicited and unsought—the cream of them. If it were possible to mention names of those we serve, it would include the most notable, whether you called for executives, ambassadors, senators or social leaders.

The fact that we are now delivering greater volume with fewer trucks and are using less than half the gasoline and doing less than half our former mileage suggests that there is a delivery story to tell and here it is:

By a stroke of good fortune, we received delivery of 12 new trucks just before the "freeze." All of these new units were on a ½-ton chassis, but six of them had the ordinary low ceiling, panel bodies on 125-in. wheelbase while the other six units had man-high, double capacity bodies on only 113-in. wheelbase. They all replaced the conventional type old units, and here is the interesting result: The "double capacity" bodies have proved to be just that in volume of sales and deliveries. The salesmen who got them have succeeded in doing twice as much a week as the salesmen who got the new trucks with the small, conventional bodies.



The two trucks shown above are part of 12 new vehicles, same make, bought to determine the type best suited for this laundry's needs

Body Experiment Doubles Sales, Halves Costs

Standard ½-ton panel job and its modern counterpart net \$1,600 business using 85 gal. gas, and \$3,250 on 70 gal., respectively

by CHARLES W. LITCHFIELD

Manager, Carroll's Laundry, Inc., Washington, D. C.

Expressed in dollars and cents, the conventional body units are doing a top of \$350 a week (five days) or about \$1,600 a month and are averaging 85 gal. of gasoline a month. The salesmen with the man-high, double capacity units are doing \$750 a week or about \$3,250 a month, using only 70 gal. of gasoline per truck, on the average, despite the greater number of stops and the heavier loads.

The actual mileage of the large body units is 25 per cent less, and this results from the fact that their double space enables the salesman to deliver the greater volume in a single trip a day, whereas the conventional body units often have to make two bites of their load, coming back to the laundry to get it and that uses up gasoline, increases the mileage and takes the salesmen's time.

But, this is not the full explanation of the difference in volume. Our large bodies are man high while the other bodies are only 4 ft. 4 in. high. The oversize bodies are about 6 ft. wide and the load space behind the driver is $9\frac{1}{2}$ ft. long, while the other trucks are less than 4 ft. wide be-

(TURN TO PAGE 84, PLEASE)





Carrier's two Chicago shops short 11 men; schoolboys tried but fizzled out. Trucks often tied up 10-30 days awaiting parts; inferior replacements waste many man-hours

by E. GROBENGIESER

Garage Superintendent, Hayes Freight Lines, 2803 S. Calumet Ave., Chicago, III.



E. Grobengiese

IT IS hard to calculate the high cost of inferior parts that have been supplied to us in recent months, but, with the added burden of parts and man-

power shortages, the total cost of our maintenance is staggering.

We entered this emergency period with determination to abide by the rules, and with the confidence that with our seven years' experience of preventive maintenance, we could keep our trucks in service as a common carrier transporting materials essential to the prosecution of the war. But then we could not foresee the obstacles that lay ahead, and which soon will be insurmountable unless we can get better quality parts to reduce the great number of manhours required to install and replace prematurely failed parts of war-time quality.

Our ability to serve the war effort

number operations about the turned in with the last o the correct coupl or mostlyst and errange with the in the mechanic. The agent elocal road and sign all	see by the dever lagerable verb the proper script and firequit is suchasis. At the fermand or one. Pageral Part city, and more re- mandate of of the days. Doods man volveed sed attack the prima- tic eventuals for repairs and department, paying the impairs of engineer property and department giving the impairs of engineer reperty and forward evigencies to Martinon prompts.	-0.0
have observed the condition of the it- tory for safe operation except as indic-	ems listed below and find each of them satus	
IF NOT		. 6
Motor Operation	Tractor Brakes	7
Oil Pressure	Trailer Brakes	-
Generator Charge	Tractor Lights, All	-
Temperature	Trasfer Lights, All	
Emergency Brake	Windshield Wiper	
Chutch	Starter	
Tractor Tires	Hora	
Trailer Tires	Semi-trailer couplings	
Steering Operation	License Plates .	
Wheels, Studs, Lugs & Nuts	I. C. C. Plates	
Other corrections needed		
	Driver you did. (Don't write "O K." "Yes," "Repair	nd.
I was unable to make corrections because		
	schanic's Name Date	
	ACTION DID YOU TAKE TO AVOID FURTH	
/3/	ITSAFER!	

with our fleet—delivering important materials to war production plants—also hinges upon two other factors equally important in the continued usefulness of our units. One, is assurance of an adequate force of mechanics that can be depended upon to stay on this job as their contribution to victory. And the other, equal-

she

We

M

perdometer Reading										
	perdometer Reading									
			THE REAL PROPERTY.							
ENGINE Cross engine & compartment Trighten Cyli heat lotts Trighten Cyli heat lotts Trighten Cyli heat lotts Trighten Cyli heat lotts Trighten Parishida Chosa for eil balla Chosa for eil		REAR END 2 Clack transmission prease leved. 27. Clack transmission prease leved. 28. Clack transmission prease leved. 29. Clack discreming prease leved. 20. Clack discreming level. 20. Clack discreming level. 20. Clack transmission level. 20. Clack discreming for play. 21. Clack better for play. 22. Clack better for play. 23. Clack better for play. 24. Clack better for forms. 25. Clack better forms. 26. Clack better forms. 27. Clack better forms. 28. Clack bet								
22. Check generator brushes COOLING		ltens checked O repairs needed.	1							
3. Fill radiator										
M. Test for leaks										
25. Ted for leaks			1							

WHERE IT HURTS

"When we have valve trouble (we have plenty of it), we can limp in. But due to the shortage of tires and in a bility to get enough spares, we have to make two or three trips a day to change tires on the road. These service trips average 20 miles, with 90 miles the top limit.

"One unit had been out of service 60 days waiting for a new engine block. When it arrived, it was found to be faulty; the casting was porous, and there was a crack an inch long on the No. 5 main. Our labor cost to repair this block was \$100. We had more money in labor than the block was worth.

"Valves and bearings have presented our worst parts handicap.

"With respect to war tires, we are averaging about 35 per cent less mileage than we got with prewar quality tires."

Harried

by War Shortages



A good PM has enabled this fleet to carry on despite parts shortages. Fig. 1 is an order for an all-inclusive check-up. Size: $8\frac{1}{2} \times 11$. Fig. 2. Form for trailer PM. Size: $5\frac{1}{2} \times 8\frac{1}{2}$. Fig. 3. Driver's vehicle report serves as a safety check. Size: $8\frac{1}{2} \times 11$. A typical vehicle of the Hayes fleet is shown at top of opposite page.

ly important, is the ability to get replacement parts of pre-war quality with less delay so that we can stop laying up so many units for days and weeks waiting for parts that do not come.

Here in this Chicago maintenance shop which is under my supervision, we need and now must have eight full-time mechanics and eight others, helpers and lubricators, on a 48-hour week, to serve 74 transportation units, namely, 30 truck tractors and 49 trailers. These units average 6000 miles per month; a few reach 9000 miles. City trucks average 1000 miles per month.

Freight has got to move. War pro-

duction plants and buyers of other materials for essential needs want prompt deliveries. We try to use common sense in this program of keeping freight rolling. To minimize road failures and to avoid putting undue burdens on any of our units, tires included, we keep within 20,000 lb. per load, and abide by the safe and economical speed limits on the highways.

Under our established PM program, we require each unit to come in for a complete check-up each 3000 miles. That ranges about once each week, but we are forced to slip up on this schedule occasionally because of the help shortage. It is a constant fight to avoid loss of truck time on the road.

Tire troubles are the worst factors (Turn to Page 138, Please)

ant

tors

ued

as-

me-

pon

ibu-

ual-

NAL

S-



"The truck tire situation is not critical but it is serious."—L. D. Tompkins



"Is the man necessary for production of essentials?" —Major General Hershey



"Joint action plans are particularly applicable to private carriers." — Brady



Oth

co

tio

th

w

th

ru

ho

bu

fin

m

aı

po

th

al

a

0

it

th

n

ti

iı

d

in I

p

"Failure to hold the line on speed threatens the future." — General Gross



"Make our trucks go another 100,000 miles."—R. F. Black

Report on Private Carriers' War Conference

Council hears speakers on manpower, conservation and other problems; resolution opposes transportation integration plan

HE National Council of Private Motor Truck Owners, Inc., met in Chicago, Jan. 27 to 28, to find out what's ahead for the 140,000 holders of certificates of necessity in their field who operate 345,000 trucks in wholesale distribution, and the 441,000 holders who operate 685,-000 vehicles in retail distribution.

Through the activities of their organization's War Advisory Committee, the almost 500 operators in at-

tendance learned that government agencies are now giving greater attention to their peculiar problems and many beneficial results have been obtained. Delegates found encouragement, too, in Director Joseph B. Eastman's assurance that just as soon as possible after the war emergency ends, and barring legislation to the contrary, the Office of Defense Transportation will be liquidated.

"The sooner it can be dissolved, the better we shall be pleased," were Mr. Eastman's words.

Further than that, the silver lining for which the group was searching was not particularly apparent. But realizing fully that "it's the war," it was agreed that the thing to do is, as suggested by Robert F. Black, president of White Motor Co., to try to "make our trucks go another hundred thousand miles and get another 5000 miles out of our tires."

Mr. Black was reminded from the floor that most equipment used by private truck operators is not originally designed to go even the first hundred thousand miles. He pleaded, however, for "a realistic approach to the facts of life."

The 88,000 trucks allotted for domestic use out of the million scheduled for production this year, he admitted, are only a "bare trickle" compared to what is needed. There is a "reasonable chance," he thought that the 88,000 will be built, with the larger portion becoming available during the latter part of the year. The "trickle" in prospect is not going to help essentially, he declared, but "at least will furnish

(TURN TO PAGE 108, PLEASE)

TRUCK OWNERSHIP AND MILEAGE OPERATED

(As of Oct. 1, 1943, Based on ODT Statistics)

Type of Truck Ownership	Number of Trucks Operated	% of Total Trucks	Number of Owners	% of Total Owners	Annual Mileage Operated	% of Total Mileage	AVERAGE ANNUAL MILEAGE
Private Farm Trucks	1,588,000	34.26	1,527,000	46.74	12,410,890,000	25.91	7,815
Other Private Trucks	2,423,000	52.28	1,376,000	42.12	22,996,790,000	48.01	9,491
For-Hire Trucks	624,000	13.46	346,000	11.14	12,492,320,000	26.08	20,020
GRAND TOTAL TRUCKS	4,635,000	100.00	3,267,000	100.00	47,900,000,000	100.00	10,334

THE months that we are in and those that lie immediately ahead are the crucial period for our carriers, and in those months they are encountering and will continue to encounter most trying and difficult conditions. I hope that these conditions will ease off somewhat before the next winter arrives, but that is wholly dependent on the progress of the war, and in war the only sound rule is to be ready for the worst, for it always can happen.

nt

ns

en,

r-

B.

on

cy

d,

re

ng

ng

ut

as

si-

to

ın-

er

he

by

gi-

rst

ed,

to

for

ed-

ad-

m-

s a

hat

the

ble

ear.

not

de-

ish

NAL

Three things about motor truck transportation have been brought home to me, since I have been on my present job. I could mention others, but these three are outstanding. The first is the degree to which our domestic economy and the war effort are dependent on motor truck transportation. The second is the fact that this form of transportation suffered, at the very outset of the war, a unique and terrible blow, when this country, which was consuming half the rubber of the world, lost access to most of its sources of natural rubber. The third is the fact that in the supply of new equipment, repair parts, and tires, our civilian motor trucks come more directly and more extensively into competition with urgent military demands for similar supplies than any other form of transportation.

If I were talking to a group of forhire motor truck carriers, I would include a fourth outstanding thing. It is that, unlike practically every other form of for-hire domestic transportation, many of them are in dire financial distress, and "dire" is a moderate word in the circumstances.

(TURN TO PAGE 100, PLEASE)



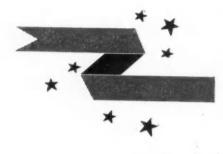
Joseph B. Eastman

Wartime Truck Operation 47,900,000,000 Miles

ODT statistics show that as of Oct. 1 there were 4,635,000 trucks in use by 3,267,000 operators; 20% mileage saved

by JOSEPH B. EASTMAN*
Director, Office of Defense Transportation

Excerpts from an address at War Conference of National Council of Private Motor Truck Owners in Chicago, Jan. 28.



"It began at Lockheed's with three trailers, about the time of Pearl Harbor," says the author in pointing out the contribution that trailers have made to production as well as transportation of war goods.

"Out at Douglas, in 1941, their transportation department marked a total of 15 units, all types. Three years later, their fleet numbers over the thousand mark and includes everything from a half-pint pick-up to a truck-trailer combination of 68,-000 lb., gross.

"Douglas Long Beach trucktrailers supply parts from what are known as producer plants at Elsinor and Oceanside, Cal., a distance of 70 miles one way.

"Douglas El Segunda plant

units haul 13-ft. high wing sections, using 35-ft. semis and tractor, from Santa Barbara, Cal., over a distance of 95 miles one way. Average load factor is

90 per cent.

"Lockheed at Burbank, Cal., have about the same program with 66 trailers of 22 to 35 ft., including 16 of the 35-ft. semitrailer vans for bulky shipments. Thirty-five tractors supply power, and most of movement is over-the-road between Burbank and Santa Barbara, 100 miles; Fresno, 225 miles; Taft, 110 Bakersfield, miles; and Average load factor is same as at Douglas.

"What is so with Douglas and Lockheed is characteristic of the

ll b

d

tl

other plane plants."

Trailers Link Plane Production

INKING raw stock storage and the vendor, or subcontracting plants, to final assembly, the truck-trailer is the thumb of the magic of airplane construction-the number one American industrial giant in global service. Production of hundreds of four-engine bombers each month, in addition to a multitude of other types, depends on them. But for these truck-trailers, such achievement would be impossible. They are the floating sections of the greatest production line in history.

In addition to making possible the procurement of parts from where they can be manufactured the best for the least, and in the greatest numbers, the truck-trailers, without effort, made it possible for the vendor industry to scatter the plane industry over hundreds of miles of territory distant from the coast; a strategic maneuver in case of possible bombing attacks or nuisance raids.

It began at Lockheed's with three trailers, about the time of Pearl Harbor. Nothing special, just the standard highway type that could be sold to some carrier, if they didn't make good. Any good truck-tractor can mother three trailers and one did. And there now roll better than 200, Join sources of raw material with decentralized parts manufacturers, finished units with strategically scattered assembly plants, greatly aiding the war effort

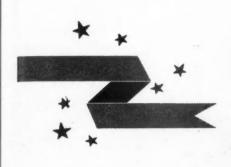
by JIM MEDFORD

mostly semis, with forty-odd trucktractors herding them around. And, like out at Vega, they're rated sub "flying fields." Because, you see, not a plane flies before in some way it rides with either its wet nurse-the truck; or its godmother-the trailer. They are the vital outdoor production lines' third member-the moving one.

The same is so at Douglas, Consolidated, Boeing, North Americanall plane plants: California, Oregon, Washington, Nevada, Oklahoma, and east, and north, and south. Dependable truck-trailer transport made it possible to locate airplane plants

where manpower and housing provide the speed-up background for greater production flow. Many of the sub-to-final-assembly hauls are of hundreds of miles, and ten miles and less, the distance runs being through tough terrain; mountain passes at zero and desert floors at 130 degrees in the only shade-your shadow.

Out at Douglas, which is typical of other plants engaged in plane production, in 1941 their transportation department marked a total of 15 units, all types inclusive. Three years later their fleet numbers over the thousand mark and includes every-



Lines

m .,

05

ıd 1e

for

of

of

ind

igh

at

ees

ical

ro-

ion

15

ars

the

ery-

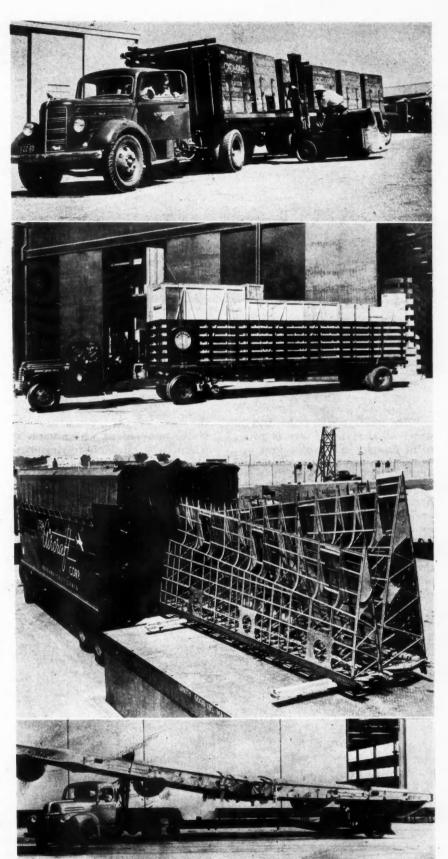
NAL

thing from a half-pint pickup to a truck-trailer combination of 68,000 lb. gross. And more are constantly being built to meet specific load conditions, either distance or short shuttle-service. Because, no truck-trailers, no peak plane production.

And, just to round out with the human element necessary in all production, 32,000 workers at Douglas ride daily in motorized vehicles.

Douglas plants are scattered and their transport web is just that. Parts arrive at Tulsa, Oklahoma, from Willow Run in truck trailers. The same is true for the 20-mile run Southgate to Santa Monica, Cal.; raw stock to final assembly. All parts into the Santa Monica, parent plant of Douglas, or not flown out of the plant, must ride in truck or trailer. There are no rail or other transportation connections. At the El Segundo, Cal., plant, 65 drivers cover 14,000 miles each week, hauling 2,000,000 lb. of parts. At the Douglas Long Beach, Cal., plant, the daily tonnage is 300, and in 1941 the monthly tonnage was 445 tons.

Based at the Santa Monica plant are 28 semi-trailers, four four-wheel trailers and 14 tractors; at the El (TURN TO PAGE 74, PLEASE)



Top. Truck trailer loaded with Wright airplane engine parts ready to be unloaded. The tractor and stake semitrailer, below, carries boxed parts picked up from plants scattered all over the back half-acres. Below, bomber wing sections are light but very bulky. This specially-designed semi

does an efficient shuttling job with minimum lost time to the next step in the production line. Bottom. Here's a large wing section that presented a real transportation problem. The specially designed semi easily shuttles these four-engine wing sections between plants, streamlining assembly





Relief map of recommended interregional system. Height of a traffic bands indicates expected traffic density

"The truck which today has an unparalled right of way is going to be caught in a traffic jam . . . worse than any you ever dreamed of.

"Fortunately, the remedy is at hand... the money is at hand, or should be if your special motor taxes are being conserved.

"What your city needs is radial expressways into and through the heart of the city, and encircling helt expressways at proper spacings depending upon

the size of your town and the traffic movement through it, which will enable the driver to move rapidly until he comes to that local street closest to his destination.

"Given a selective system of this sort, which means only a limited mileage of improvement out of the total, at once freedom of movement is permitted, the heavy traffic is drained off local streets and deliveries are expedited at lowered cost."

Elevated express highways are proposed through large cities. Sketch shows expressway section with central exit and lateral entrance ramps

Highways



Pyke Johnson

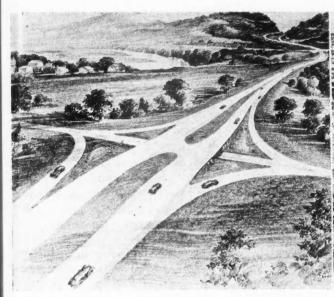
JUST now, with passenger car traffic cut in half, conditions on the highway are in favor of trucks. But, when this war is over, conditions are going

to change as millions of people can get cars or gas or tires to get back on to the road.

America is going to town and in a bigger way than anyone of us has ever known. And the truck which today has an unparalleled right of way is going to be caught in a traffic jam which will be worse than any you ever dreamed of in that nightmare past of the days preceding Pearl Harbor!

Go back with me for a minute to 1940. Remember what was happening in your town, and I don't care which town it was—Chicago or Decatur or New York or Phoenix or any of the other communities over 50,000 in these United States?

Creeping paralysis had set in. The traffic had gone up and up without





Grade crossing on a four-lane rural section of the system. In the distance the two roadways take different levels where alignment follows the side of a steep hill

ffic

ity

vith

car

alf.

the

in

cks.

this

con-

oing

can

ack

in a

has

hich

t of

affic

you

nare

earl

e to

pen-

care

De-

x or

over

The

hout

RNAL

Section through a city residential area. Right-of-way is block wide includes recreational areas. Roadways dip under cross street bridges on a gently rolling grade

for Post-War Prosperity

Traffic congestion sure to arise after the war calls for immediate planning and active interest of fleetmen

by PYKE JOHNSON*

President, Automotive Safety Foundation

*Excerpts from an address before the War Conference of the National Council of Private Motor Truck Owners, Inc.

interruption for a solid 25 years and more. Rural roads had been built, towns had been linked together, our engineers had accomplished a miracle of road building.

And yet, the trucker or traveler approaching a center of population found himself be-set and be-devilled by traffic on all sides of him, pouring in from intersections, backing up behind traffic lights, slowed down by countless exposures to pedestrians and vehicles of all kinds.

In plain unvarnished fact, we had

created a medium for astronomical multiplication of traffic, but we hadn't done anything more than to barely begin to realize that that volume of intercity traffic, added to city and surburban movement, was away and beyond the total capacity of city street layouts born in the days of the horse and buggy and set into almost permanent form by the vertical ascension of our cities in the interval.

Where could you park your delivery truck? By double ranking so incurring the ire of the fellow behind you. Where could the motorist park his car as he went to business, shopping or to places of amusement? Only on the street, so cutting down your chance for movement, or on inadequate off-street parking spaces.

What was happening? Read the real estate records! Assessed values in our municipalities shrank 25 per cent in recent years. Take note of the blighted areas in the heart of our great cities today! Congestion was setting in and our Golden Triangles were faced with that stagnation of movement which is the first step on the road to toppling values of all kinds.

And that is just what is going to face your community and your business when this war is over. That plus the increment of millions of new vehicular movements or efforts at movement, unless your community and you who live in it take advantage of the breathing spell the war has given us to see that it doesn't happen.

If it does, then your costs of distribution are going to go up.

(TURN TO PAGE 196, PLEASE)



Fleets Permitted to Simplify Record Keeping

A simplified system of recordkeeping by operators of motor truck fleets relating to mileage, motor fuel, loads transported, tire inspection and idle equipment has been made effective by the ODT in Amendment 1 to the Administrative Order ODT 9.

Heretofore, fleet operators of motor trucks have been required to keep weekly records of vehicle operations for inspection by ODT authorities. Under the amendment, however, where it is not practicable to keep weekly accounts, fleet operators may make entries covering either fleet or single-unit operations for each month, or any period shorter than a month, in order to simplify bookkeeping, it was said.

The required records may be kept by fleet operators in any convenient manner, except that tire-inspection records, in specified circumstances, must be kept on a prescribed form.

Further, where it is not reasonably practicable to keep a record of loads transported, fleet operators may propose to their ODT district managers a method for estimating the loads transported, and use the method if the district manager approves it.

Procedure for Operators Seeking Special Permits

According to the new Administrative Order ODT 14, effective Feb. 15, truck operators seeking special permits relieving them from compliance with specified provisions of ODT orders are required to file written applications with ODT district managers. The applications must show:

(1) The name, address and principal place of business of the applicant; (2) the serial number of the Certificate of War Necessity, if any, held by the applicant; (3) the spe-

cific provision of the order of the ODT from which the applicant requests relief; (4) the specific relief requested by the applicant; (5) the facts upon which the applicant bases the request for such relief, and (6) a description of existing motor vehicle operating authority granted to the applicant by any federal or state regulatory body and relating to the motor vehicle operations to be conducted under the special permit for which the application is being made.

The order requires that the application and two copies be filed in the district office under which operations under the special permit are to be conducted. If they are to be conducted in more than one district, the application and two copies, together with an additional copy for each district in excess of one, should be filed in the district office of the district in which the major part of the operations are to take place.

How to Apply for a Route Extension Permit

The procedure which all motor truck operators must follow in applying for ODT approval of proposals to extend present operations or to institute new services has been prescribed in Administrative Order ODT 15, effective Feb. 1.

The applicant must apply to the manager of the ODT motor transport district office in which his operating headquarters are located and must provide the following information: name, address, principal place of business and operating headquarters; description of proposed service and method and manner in which it is to be performed, including number of vehicles to be employed, schedules, etc.; name of any motor, rail or water carrier presently performing a similar service; authority granted by

the Interstate Commerce Commission or appropriate state regulatory body, where such authorization is required; justification of the service as necessary to the war effort or to the maintenance of essential civilian economy; serial numbers of Certificates of War Necessity involved in the proposed service.

Joint Action Procedure for Private Operators

The ODT has prescribed the procedure to be followed by private motor truck operators seeking ODT approval of joint-action plans. It applies to all private carriers of property except trucks used for the retail delivery of solid fuels, and farm or tank trucks, which come under separate programs.

Joint-action plans submitted for ODT approval must (1) be in writing and signed by all participants, (2) show the correct legal name and full address of each participant, (3) specify methods of joint action to be used and the practical application of these methods to the particular operation of the participants, (4) describe the territory involved, (5) show name and address of designated correspondent, (6) show the approximate number of other carriers in the area performing like services, (7) contain an estimate of the conservation to be accomplished, (8) describe the present method of operation, and (9) give assurance that adequate transportation service will be maintained.

to for contract to the contrac

S

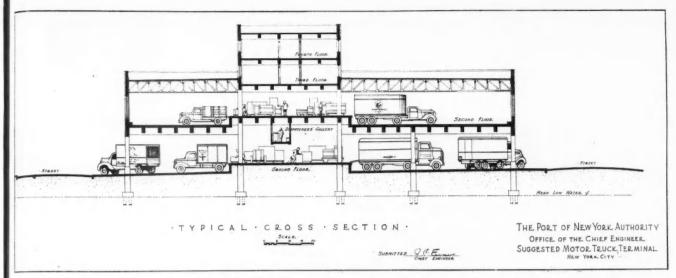
te

Single Movement Okay

A single specific movement by a private motor truck operator to a point or points not served by him before Oct. 25, 1943, does not constitute a new or extended operation requiring prior approval of the ODT under Amendment 6 to General Order ODT 17, according to the ODT.

Add Joint Action Methods

Under Amendment 6 to General Order ODT 3, Revised, the list of methods by which motor common carriers in over-the-road operation may engage in joint-action plans has been expanded to include the suspension of less-than-truckload shipments and the coordination of schedules between two or more points.



A cross section of the proposed Union Truck Terminal in New York City as shown in the preliminary plans

¶ Dan Boone, Chairman of the Operators Committee working for the union truck terminal, has this to say for the project:

e l-

p.

il or

a-

it-

nd

3)

be

of

r-

le-

5)

ed

p-

TS

es,

n-3)

p-

at

ill

a

im

n-

on

DT

Or-

T.

ral

of

on

ion

has

en-

nts

iles

NAL

The time has come to go ahead with a well located and constructed union truck freight terminal. With the growing need for truck conservation, we are convinced that immediate action is desirable. Such a terminal will eliminate much of the wastage caused by delivery, by partially loaded vehicles, of small lots that should be consolidated across a union terminal platform. This kind of cooperation facility should cut to a minimum the percentage of partly loaded trucks and the high cost incident to such operations."

N. Y. Union Truck Terminal To Save 1,800,000 Miles

Port of New Authority is ready to build, as soon as WPB approves, facilities that will save tires, gas and labor

by PAUL MACK WHELAN

UT of the war situation, a combination of military appreciation and realization of its logical effectiveness by operators has brought to life the project of constructing the first union motor truck terminal. The War Production Board has the final say on when and how the essential materials may or may not be allocated. Without this permission construction may be delayed, but the application went before the WPB with such impressive and sweeping endorsements that a speedy and affirmative answer from Washington is hoped for.

There is no problem of money. In January, the Tax Appeals Board in Washington sustained the tax-exempt character of the enterprise. Under the terms of the latest financing all that is necessary is to specify the purpose of the new facility and sell bonds to the amount required. It is expected that up to \$2,750,000 will be initially required, and more may be expended if certain supplementary ideas are worked out.

All parties concerned in the enterprise have been avoiding public comment and warding off premature publicity. However, Mr. Walter Hedden, Director of Development of the Port Authority, has this to say: "The plans have received the endorsement of leading local truck concerns, over-the-road and local. The War Department, in a special study, laid emphasis on its military value. The Interstate Commerce Commission sent a special request that it be approved, and the Office of Defense Transportation has sponsored the plan before the WPB. The Port Authority has approved, and can do the financing overnight. Everything for it has been done that can be done. Now we must await the WPB verdict."

From the military standpoint, study (Turn to Page 78, Please)



USE THE POSTCARD NO STAMP NEEDED



FOR FLEET OPERATORS

The latest in shop equipment, supplies, replacement parts and accessories developed by manufacturers for fleet operators. For more details of any product described, fill in the number on the postcard and mail. No stamp needed. Also use the postcard for additional information on any product advertised in this issue.

L162. Truck Decoration Chart

A leading manufacturer of decal truck lettering and pictorials is distributing an informative layout and copy visualizer to aid truck owners in planning and designing the advertising display on their trucks and trailers.

In addition to selected illustrations of well-decorated truck bodies, ranging from panel deliveries to cross country vans and tank trucks, the visualizer includes skeleton outline diagrams of many body types for experimental lettering and designing. Copies of the visualizer can be obtained simply by writing L162 on the accompanying post-free postcard.

L163. Cleaning Handbook

Short cuts, speedier methods, more active cleaning materials and such specific cleaning problems as cold tank cleaning, internal motor cleaning, oil truck interior cleaning, radiator cleaning, rust and scale prevention, truck interior cleaning, stripping paint and many other fleet cleaning problems are covered in this interesting and comprehensive 48-page handbook.

This is a how-to-do-it manual, showing why, how and when each cleaning operation should be done for most effective and economical results from the view of preventive

maintenance. It is prepared especially for fleet operators, and contains many illustrations and diagrams of cleaning methods, equipment, hook-ups, etc. Inasmuch as cleaning is so closely allied with conservation, every fleet operator should avail himself of this offer. Write L163 on the postcard.

L164. Operators Wartime Guide

Here's a valuable book that, while designed and prepared especially for private carriers, will be found extremely useful by other fleet operators, such as contract carriers.

The private carrier who has been saving clippings, circulars and notices pertaining to the various ODT regulations, will be interested to know that here will be found a complete summary and explanation of all the government regulations on retail and wholesale operations. Thus, in one handy and convenient form interested fleet operators will have all the answers as to what, when and where deliveries may be made.

In addition, a section of the book is devoted to wartime truck maintenance. Write L164 and the quantity on the free postcard.

L165. Brake Systems Manual

Here is an excellent shop manual that brings up to date all basic data on operation, inspection and maintenance of truck and trailer brakes and brake control systems.

Containing scores of graphic, easy-to-understand illustrations, this new 80-page book covers in detail all basic technical facts on the servicing and maintenance of brake systems in use on all modern, heavy-duty vehicles. It describes the function of every part of every brake and brake control system in popular use today, and outlines step-by-step adjustment procedures.

u

O

te

tl

u

h n h

r ł

The handy trouble-shooting charts and comprehensive inspection and maintenance directions contained in this manual can help in training new men as well as guiding all mechanics toward quicker, more efficient brake servicing.

Don't pass up the chance to own this manual without cost or obligation. You can get it simply by writing L165 on the post-free postcard.

L166. Wheel and Drum Data

Very helpful to truck maintenance is this 24-page wheel and brake drum booklet containing detailed specifications for trucks and trailers.

The wheel data covers single and dual wheel assemblies with respect to replacement parts, rim and tire spacing, etc.

Brake drum data covers the plain and ribbed types giving specifications 18 different types.

Write L166 on the postcard.



NEW PRODUCTS

VALUABLE AIDS FOR FLEETMEN

A selected list of the latest literature — books, pamphlets and catalogs — intended to help fleet operators solve maintenance and operating problems. They are more valuable today than ever before. All are free. To get your copies simply fill in the numbers on the postcard and mail. No stamp is needed.

P186. Underbody Coating

Complete protection against corrosive road salts and chemicals, as well as ordinary oxidation, is said to be effected by 3-M. This is a new underbody protective coating developed and marketed by the Minnesota Mining & Mfg. Co., St. Paul, Minn.

In addition to its basic rust prevention protection, this coating material prevents gravel abrasion and. when applied under fenders, eliminates gravel "ping" spots that break the surface paint.

Other claims made for this 3-M are that it "sound-deadens" the underbody, reducing road noises and vibration. When sprayed under the hood, it is said to reduce engine noise. It will seal seams in the underbody against exhaust fumes, dust and water.

Exclusive of preparation time, it requires about 1 hr. to spray underbody, fenders and hood. Five to eight gallons, depending on the size of the vehicle, will do the job; 3-M remains flexible and resilient at elevated or sub-zero temperatures.

Use Free Postcard For More Details.

P187. New High Speed Tire

New design and construction of the Speedliner Silvertown truck tire, making it run cooler than ever before, is announced by the truck and bus tire department of The B. F. Goodrich Co. The new tire is available in size 7.50x20 eight ply or larger.

Reduced tread thickness at the shoulders, addition of new ventilating grooves in the shoulder blocks, are principal changes in the tire construction which lessen operating heat, while other improvements in design reduce dangers of sidewall cracking.



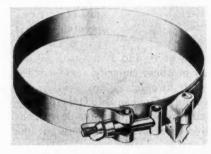
The sidewall has been made thicker at the base of the grooves between the shoulder blocks, and the ornamental rib on the sidewall constructed shallower to provide better distribution of stresses.

Cooler operation means longer life and more possibility of recapping.

Use Free Postcard For More Details.

P188. New Type Clamps

Quick-Coupler, a new type clamp produced by Marman Products Co., Inc., Inglewood, Cal., combines a



snap-on latch with the full adjustment of a standard clamp, all in one unit. This design permits the instantaneous removal of the clamp or its quick installation.

Quick-Coupler is available in all sizes, in aluminum alloy and stainless steel, and in shapes to fit all convex surfaces. It may be had with self-locking, plain hex or wing nuts.

Use Free Postcard For More Details.

P189. New Fog Lamps

In line with the amended government order L158, the Arrow Safety Device Co., Mt. Holly, N. J., has released a new line of fog lamps.

They have the All-Glass, Sealed Beam lighting units that will not depreciate, even after long periods of (Turn to Next Page Please)

NEW PRODUCTS Continued from Page 59

service. The lamps themselves have an all-weather, grey or black enamel finish. Their construction is sturdy and they can be easily and securely mounted.

Use Free Postcard For More Details.

P190. Portable Hydraulic Press

Rugged, all-steel construction, and simplified hydraulic foot control, are outstanding features of the new portable hydraulic press manufactured by Reimuller Brothers Co., Franklin Park, Ill.



The Reimuller Hy - Speed, gapstyle press is designed for a more speedy and efficient handling assembling, of riveting, broachgrooving, ing. sizing straightening, marking, forming, and the scores of other small press operations. It is made in two

models of 10 and 20-ton with 50 per cent overload capacity.

Only two levers are used in the hydraulic foot-control: One applying even pressures of any degree, as rapidly or as slowly as desired; the other for release.

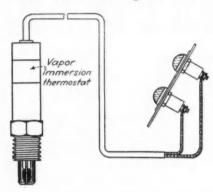
Use Free Postcard For More Details.

P191. Heat Indicator & Alarm

A visual anticipating temperature indicator and warning signal is available that shows a green light when temperature is in the desired range, a flashing red light when temperature approaches the danger level, and a continuous red light when the temperature rises above the danger point. It is known as the Telatemp, and manufactured by the Vapor Car Heating Co., Inc., Chicago.

The Telatemp consists of a thermostat and two lights, connected by the necessary wire, and is being recommended for use in gasoline or diesel engines and pipe lines or containers carrying liquids, air or gas. The im-

mersion thermostat threads into the cylinder head, coolant, oil pipe, etc., and accurately senses temperature within less than one degree Fahr.



Telatemp thermostats are available in pipe or running threads, for pipe or duct applications.

Use Free Postcard For More Details.

P192. Heavy Coatings Sprayer

For high-speed, uniform application of special heavy coatings now available to protect underbodies of cars, trucks and buses, the DeVilbiss Co., Toledo, Ohio, announces two new spray equipment assemblies.

The primary assembly consists of a 10-gal. pressure feed tank designed for use with heavy materials, a Type MBC spray gun with special spray head for handling the heavy compounds, an air valve to tap air supply line and connect with hose to pressure tank, a valve for the spray gun end of air hose to regulate atomizing pressure, 15-ft. lengths of air hose for use between air line and



pressure feed tank, and air and fluid hose for use between tank and spray gun.

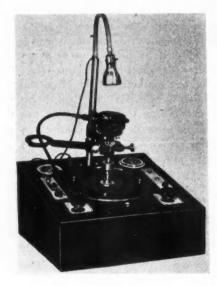
Use Free Postcard For More Details.

P193. Distributor Tester

This new distributor tester quickly locates the cause of irregularities in performance, whether due to improper point action, wrong adjustment, wear, etc. It is made by Lanagan & Hoke, Philadelphia.

Mounted in the center of the panel is a motor driven rotating disc containing two special electronic tubes, one red and one blue. Since the distributor is connected to the central shaft, the tubes rotate in unison and light brightly each time the contacts close. A worn cam, shaft or bushing will illuminate the blue light out of phase with the red, and both red and blue bars will be visible. The number of degrees between the two indicate the discrepancy.

The actual number of degrees of cam travel during which the points are both open and closed are instantly determined by turning a



single switch and noting on the degree ring the number of degrees of change between location of the light bars.

Each firing impulse of the distributor is shown by the light bars at all times, thereby giving a true indication of each lobe of the cam.

The built-in vacuum pump and gage make it possible to operate the vacuum advance mechanism of the distributor, and ascertain as to whether or not it is advancing the spark in accordance with the manufacturer's specifications for various engine vacuums.

Use Free Postcard For More Details.



The Caissons of the civilian front...

As the barking guns on the fighting fronts look to the Caissons for ammunition, the plants of war production depend on efficient transportation of material.

Maintenance men are doing a magnificent job of keeping the motor fleets running, under adverse conditions. The fact that Exide Batteries, through their long-life, complete dependability, and ease of maintenance, have contributed to this feat, is a source of great pride to us. The simple Exide mainte-

nance rules that are being followed insure the maximum of use. When you buy an Exide, you Buy to Last. When you take care of it, you Save to Win.



THESE 4 RULES HELP KEEP 'EM ROLLING

- 1 Keep adding approved water at regular intervals. Most local water is safe. Ask us if yours is safe.
- 2 Keep the battery securely held in its compartment at all times. A battery container properly installed and kept clean on top, will outlast its inner workings.
- 3 Keep the battery fully charged but avoid excessive over-charge. Check the voltage regulator setting frequently—use accurate instruments.
- 4 Record water additions, gravity readings and voltage regulator settings. Don't trust your memory. Write down a complete record of your battery's life history. Compare readings.

If you wish more detailed information, or have a special battery problem, don't hesitate to write to Exide. We want you to get the long-life built into every Exide Battery. Ask for booklet Form 2984.



THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

de-

of

ght

ih.

at di-

and

ate

of

to

the

nuous

ails.

NAI.



Copper Order Revoked; Replacement Parts Boon

The copper-restricting order, L-106, was reversed Feb. 12 by the W.P.B. While this virtually removes all restrictions on the use of the red metal for certain parts, it does not permit the manufacture of any products with copper other than those specifically enumerated in Limitation Order L-158, which remains in force.

It means the use of copper in the production for civilian use of automobile radiators, gaskets, fuel and oil lines, brake and clutch lining rivets and other essential parts.

It is estimated that the revocation of L-106 will result in making available approximately 5,000,000 pounds

of copper per quarter for the parts specified in L-158. The return to use of the more familiar material will also mean, it is estimated by industry, more satisfactory products, and considerable savings in manhours of labor for production, maintenance and installation of these parts in civilian vehicles.

Increase in Used Parts Expected of Wreckers

The W.P.B. has taken steps to increase the quantity of used automotive parts urgently required to maintain the nation's automotive transportation.

In June, 1943, W.P.B. Conservation Order, M-311, prohibited the scrapping of serviceable used automotive parts. However, it has been found that many vehicles finding their way into auto wreckers' yards have not always been promptly dismantled, with the result that badly needed scrap metal and equally needed replacement parts were not made readily available.

An amendment to the order now provides that when it is determined by W.P.B. that motor vehicles acquired by an auto wrecker are not being dismantled at a rate sufficient to meet the needs for scrap and serviceable parts, the Board, by written direction, may order any auto wrecker not to purchase or accept delivery of additional motor vehicles until he has dismantled a specified number then in his yard.

Priority for Tank Trucks

A temporary priority on all tank-truck tractor applications has been granted by the WPB at the request of ODT. All tank-truck tractor applications approved during the current petroleum transportation emergency will be handled by the truck manufacturers ahead of other truck applications.

OPA NEWS

Grade III Tire Exchange for Recapped Carcass

Essential truck operators in areas where tire recapping facilities are inadequate or unavailable may now obtain a ration certificate permitting them to exchange with dealers a tire which needs recapping for a used tire or a new "war" (reclaimed rubber) tire. The OPA has taken this action in Amendment 68 to Ration Order 1A, effective Feb. 7, 1944.

A certificate authorizing acquisition of a used tire or a new "war" tire may be obtained by a truck operator from his local War Price and Rationing Board provided he is operating an essential trucking service and he turns in the recappable carcass at the time the certificate is used. "List A" and "List B" eligibles are deemed essential under the provision.

Ration Bank Change

In Amendment 101 to Ration Order 5C, OPA provides that local boards when issuing a renewal ration to bulk users of gasoline who are ration bank depositors will henceforth deduct from the ration the unused portion of the current ration held in a ration bank account. This action was taken to simplify the issuance of gasoline rations for bulk consumers.

Bulk Users Get 30 Days

Large bulk consumers of gasoline are allowed up to 30 days after delivery in which to surrender ration checks, under the terms of Amendment 98 to Ration Order 5C, effective of the consumer o

tive Feb. 3, 1944. The new provisions apply to companies having a single ration bank account that serves at least 25 points at which the gasoline is delivered in bulk. The new amendment now permits the main office to audit its books and make payment of the necessary ration check itself rather than have the payment made by its branch where the actual delivery of the gasoline might have been made.

Gas Lost Restorable

The OPA, in Amendment 97 to Ration Order 5C, effective Feb. 3, 1944, will permit trucking companies, farmers, and other bulk users of gasoline to replenish losses from their storage facilities resulting from fire, theft, accident or other extraordinary circumstances, by applying for replenishment at the local board which originally issued the ration or the board in the area where the gasoline was stored.

(TURN TO PAGE 72, PLEASE)



This Mack LJT tractor went into service for the National Weaving Company of Lowell, N.C., in July, 1941, pulling a 30-foot, 20-ton trailer on a regular schedule between Lowell, N.C., and Cohoes, N.Y. At 250,000 miles, new rings were installed; and by last September, it had already piled up a record of 372,910 miles without a breakdown!

HERE'S MORE PROOF YOU CAN'T BEAT MACK!

When L. W. Stuart of National Weaving came to New York to work out specifications for a tractor-trailer combination, he had an idea that if you engineer something to do a specific job, it will pay dividends. The Mack he ordered is still paying dividends, and he says it's performing better than any truck on the highway. There's a reason: "built like a Mack" means built like more truck, built to work harder, longer, with greater maintenance and operating economy. That's the way Macks have been built for 44 years... the reason why truck operators know "you can't beat Mack!"



n of ant y

ri-

at

he he he

nd ra-

he ere ne

Ra-44.

ies.

of

eir

ire,

ary

re-

ich

the

ine

NAL

Mack Trucks, Inc., Empire State Building, New York, N. Y. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J. Factory branches and dealers in all principal cities for service and parts.



BUY U. S. WAR BONDS -

IF YOU'VE GOT A MACK, YOU'RE LUCKY...IF YOU PLAN TO GET ONE, YOU'RE WISE!



797,195 Trucks Were Produced in 1942

Total truck production in the first nine months of 1943 was 500,845 in all sizes, according to figures released by the Automotive Division of W.P.B. Of this total, 191,094 were heavy trucks, 16,000 lb. gross vehicle weight and over; 108,148 were medium trucks, 9,000 lb. up to 16,000 lb. gross vehicle weight, and 201,603 were light trucks under 9,000 lb. gross.

For the full year 1942 truck production was 797,195, of which 241,088 were heavy, 255,267 medium and 300,840 light trucks.

For the full year 1941 truck production was 1,042,270, of which 178,424 were heavy, 424,215 medium and 439,631 light trucks.

Operating Deficits Predominate Among Nation's Truck Lines

Motor freight carriers as a whole operated at a loss in December, according to revenue and expense data compiled by American Trucking Associations, Inc.

Based on reports from 200 Class I motor carriers of property in 39 states and the District of Columbia, the study showed December revenues 4.3 per cent under November, while expenses increased 7.3 per cent.

December revenues represented an increase of 3.7 per cent over a year earlier, but costs meanwhile were 5.5 per cent higher.

The ratio of expenses to revenues was 109.2 in December. The same carriers had operating ratios of 97.4 in November and 107.9 in December, 1942. The high ratios in December are due partially to year-end bookkeeping adjustments.

· Of the 200 reporting carriers, 143

whose revenues amounted to 80 per cent of the total, suffered operating losses in December. Sixty-six showed operating deficits for November, and 124 reported losses for December, 1942.

SAE Receives First Ordnance Distinguished Service Award

Society of Automotive Engineers has been presented with the first U. S. Army Ordnance Distinguished Service Award "in recognition of outstanding and meritorious engineering advisory services in war and peace; in design, manufacture and maintenance of Ordnance materiel."

Army To Aid Highway Maintenance

Recognizing the critical situation existing with respect to equipment, repair parts and supplies for road maintenance, the Public Roads Administration is working with the War Production Board, Office of Defense Transportation, Office of the Rubber Director and the Procurement Division of the Treasury Department to. increase the supply and expedite procurement. In connection therewith arrangements have been completed for the cooperation and assistance of the War Department relative to equipment, repair parts and supplies for maintenance of access roads and highways carrying essential bus and truck traffic.

Senate Confirms Eastman and Rogers Appointments to ICC

President Roosevelt's nominations of John B. Eastman and John L. Rogers for another term as members of the Interstate Commerce Commission.





W. P. Seiberling, left, sales manager of accessories and repair materials of the Seiberling Rubber Co., Akron, has been appointed secretary of the company. H. E. Thomas, right, assistant secretary of the company, became assistant treasurer

Martin J. Berlyn, recently of Dominion Engineering Works, Ltd., Montreal, has been appointed vice president in charge of engineering of The American Bosch Corp., Springfield, Mass.





Russ Armstrong of TransAmerican Freight Lines, Inc., was installed as president of the Motor City Traffic Club of Detroit

Frank C. Barrows, Jr., Detroit district sales manager of the Aluminum Co. of America, has been a ppointed automotive sales manager





R. L. Taylor, formerly with Electric Auto Lite, has been appointed technical advisor for Pennsylvania Rubber Co. in eastern Pennsylvania and southern New Jersey areas



Warner



MIDLAND CHRISTENSEN BRAKES POWER BRAKES

For Safety! For Economy!
For Dependability! You need
MIDLAND'S
3 EXCLUSIVE FEATURES



es, led of lity

for-

has

visor ania . in nsylouthrsey

URNAL

BIG 7.3 CU. FT. COMPRESSOR For Double Air Capacity

BUS TYPE
TREADLE VALVE
For Perfect Control



YOUR CHOICE of cylinders or diaphragm chambers for Super Power Ask your distributor about the

MIDLAND

Brake Surety Plan

and

MIDLAND

Power Brake Kits



"Those Who Know POWER BRAKES... Choose MIDLAND"

The MIDLAND STEEL PRODUCTS CO. WEST 106th & MADISON AVENUE . CLEVELAND, OHIO



(CONTINUED FROM PAGE 35)

Tin Bearing Help Wanted

This department has inquired of the ODT Maintenance Section why more than 10 per cent tin for babbitt has not been made available for bearings in engines used in trucks from 9000 to 16,000 lb. gross vehicle weight. (For trucks 16,000 lb. gross and over 90 per cent tin is permitted.) ODT's answer is that it hasn't been able to build a case before WPB which would show that medium duty trucks (the so-called 1½-ton jobs) need more than 10 per cent tin for babbitt. ODT points out that the Chevrolet engine gets along, and always has, on this prescription, and that the Ford engine will be taken care of by cadmium bearings and the new Ford bearings. International Harvester, Dodge and General Motors Truck dominate the remainder of this 11/2-ton field. Do their engine bearings need more than 10 per cent tin? If they do, ODT wants to know it. Write to that effect to the Maintenance Section, Office of Defense Transportation, Hearing Room "A," Interstate Commerce Commission, Washington, D. C.

60,000 Bodies Okayed

Because both steel (including some standard alloys) and aluminum are in good supply, the ODT has succeeded in getting WPB authorization for the manufacture of 60,000 bodies for trucks and trailers. This is in addition to the bodies that will be built in fulfillment of the 1944 truck and trailer programs.

40,000 Trailers for Farmers

WPB is expected to okay a program calling for the building of 40,000 farm trailers, ranging in pay-

load capacity from \(^34\)-ton to 3 tons. These trailers can be hitched behind a light truck, a passenger car or farm tractor. The idea originated with the War Food Administration and has the support of the "farm bloc" and the ODT. The trailers are expected to sell at around \(^5500\) maximum and keep many farmers out of the market for scarce trucks. The trailers will use passenger-car type tires.

5934 Third Axles in 1944

Third axle production figures for 1944 have not been officially released by the WPB but it is understood that 5934 units have been authorized. As to types this breaks down as follows: Gear-driven, 3146; chain-driven, 371; trailing, 2417. The production schedule by quarters is 1450, 1452, 1516 and 1516. For the record: during all of 1943 approximately 1500 third axles of all types were manufactured.

4000 More Trucks for '44

Several months ago this department forecast that the figure of 81,-000 new trucks for civilians would be raised to 88,000. The forecast is now an official fact. However. another forecast is in order. It is that the 88,000 will be raised to 92,-000. It seems that Lend-Lease saw facilities opening up with one manufacturer and was permitted to order 5000 trucks of one make as part of its 1944 allotment. This made available the facilities of other manufacturers and they will swell the 1944 total by 5000 more trucks, 4000 of which will go to civilians.

January Output Off 500

The January, 1944, new truck schedule was almost met. The schedule called for 3100 trucks, and 2600 were manufactured. (We are speaking here only of trucks. Buses and off-the-highway vehicles are not considered.) The February truck schedule was 3400 units. There were no predictions that it would be realized. It was a certainty, however, that the first quarter's scheduled production of 7500 trucks would be attained, if not exceeded.

Civilian Pool Out of Mediums

By the time this item is read the civilian ration pool will be all out of medium trucks. As of Feb. 13 there were 1752 medium trucks—a two-

week supply—in the civilian pool. In the government-exempt pool there were supposed to be 4000 medium trucks and 1700 heavy-duty jobs.

Petroleum Preference Resented

Considerable resentment within and without the ODT was occasioned by the temporary priority given petroleum haulers for heavy-duty tank trucks. The petroleum haulers wanted first crack at heavy-duty truck production to the extent of between 600 and 800 trucks and got it. As of Washington's Birthday, applications for 575 had been approved and an effort was afoot to curb the preferential treatment. The petroleum haulers contend that unless they get the trucks, gasoline will not be where and when it is needed, and all other truck operators will suffer. Opponents of preferential treatment are not prepared to accept the facts back of this logic.

Plan to Speed Production

The legal department of WPB is studying for anti-trust implications a proposal under which truck manufacturers would pool information on inventories of component units intended for civilian truck production and exchange units with one another in furtherance of the civilian truck production program. The manufacturers already have proof that the idea is sound. They have been doing it on military vehicles.

END

(Please resume your reading on P. 36)



This is the "Camp Ellis Special" trailer operated by Roszell's Dairy, Peoria, Ill., exclusively to supply dairy products for that military organization.



Willard Storage Battery Co., Cleveland, was awarded the Army-Navy "E" for high achievement in the production of war materiel. Lt. Col. T. H. Eickhoff, Cleveland Ordnance District, presented the pennant to C. E. Murray, Willard's vice president.

From Texas Range to Army Range



In

1:1

in ed

oe-

nk

ed

ro-

00

of

ns

an

en-

ul-

the

ere her Opare ack

is a nuon intion ther uck facthe oing

36)

cial" airy, lairy tion.

leve-"E" oduc-'. H.

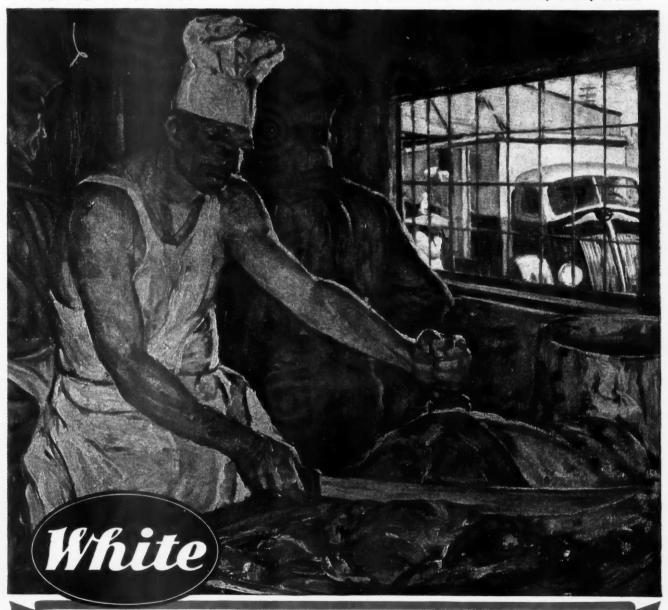
trict, Mur-

RNAL

Nearly two-thirds of America's livestock moves to market from farm and ranch on motor trucks. The chief advantage shippers find in truck transportation is the flexibility and dependability which enable them to time the arrival of their shipments more precisely and, thus, guard against costly shrinkage and waste. RIGHT UP TO THE KITCHEN DOOR of even the most remote Army Camps in the country, the motor trucks of America's meat packers are delivering huge quantities of fresh meat daily. Refrigerators on wheels, they haul from plants hundreds of miles away . . . in many cases accessible to no other form of transport . . . often on an hour's notice.

It is another example of that commonplace modern miracle—truck transportation...vital to the war in production, distribution and combat. Every truck today must "serve for the duration." If you own a White, ask your local representative about White Personalized Service. If you own any make, our conservation facilities are at your call.

THE WHITE MOTOR COMPANY . CLEVELAND, OHIO, U.S.A.



FOR MORE THAN 40 YEARS THE GREATEST NAME IN TRUCKS

BUY MORE WAR BONDS



Look for LYNITE*

In engines coming in for servicing, look for the name LYNITE LO-EX. And note how well those pistons are standing up. They improve engine performance and efficiency; they reduce wear and upkeep.

On dealers' shelves, as pistons for civilian replacement work again become available, look for the name LYNITE LO-EX. They won't stay long, there's such a demand for these pistons, machined and sold by OHIO. But we promise to stock up our dealers just as fast as the pressure for wartime production of pistons eases.

*Lynite and LO-EX are registered trade-marks of Aluminum Company of America, makers of castings for genuine Lynite Pistons.

THE OHIO PISTON CO.

CLEVELAND, OHIO



by ROBERT F. BAHL

Correct Answers on Page 82

This month's Quiz is elementary—quite elementary. In fact, it's so simple that, if you're not careful, you might just pick out the wrong answer. Then you'll be kicking yourself when you check the correct answers on page 82, because you knew full well the right one in the first place. Let's go, taking the usual credit of 10 points for each correct answer.

1.

Complete this sentence by choosing the correct part. The transmission normally passes its driving powers on to the . . .

a. rear axle

c. front axle

b. clutch

d. fly wheel

2.

There's no need to boil over picking out the correct answer to this one. The reason that alcohol is put in the radiator in cold weather is that it...

- a. lowers the freezing point of the
- b. raises the freezing point of the liquid
- c. lowers the boiling point of the liquid
- d. raises the boiling point of the liquid

3.

Before gasoline can be burned in the combustion chamber of an engine, it must be . . .

- a. purified
- c. octane rated
- b. cooled
- d. vaporized

4.

The part of the engine in which the mixture of gas and air burns is the . . .

- a. spark plug
- c. cylinder
- b. distributor d. carburetor

5.

A friend of ours who is driving an Army truck in Australia writes to tell us that down there oil used in winter is . . .

- a. lighter than oil used in summer
- b. heavier than oil used in summer
- c. darker than oil used in summer
- d. the same as oil used in summer

6.

The part of a truck which allows one rear wheel to go faster than the other is called the . . .

- a. universal joint
- b. transmission
- c. differential
- d. there is no such part

7.

Remembering the phrase "step on the gas," it should be easy for you to tell that the acceleration pedal is used for controlling the

- a. spark plugs
- b. carburetor throttle
- c. gas tank
- d. ignition system

8.

The oil pressure gage on a truck indicates . . .

- a. the quantity of oil in the engine
- b. the quality of oil in the engine
- c. that the engine oil is circulating
- d. the oil pressure that should be maintained

9.

Water in the cooling system of a truck should be . . .

- a. alkaline
- c. salty
- b. acid
- d. neutral

10.

If the engine of your truck be-

comes overheated, the thing to do is . . .

- a. pour cold water in immediately
- b. allow the engine to cool down first
- c. pour in cold anti-freeze immediately
- d. pour in boiling water immediately



Trucks and trailers rolling from an LST boat at Kiriwina Island in the South Pacific. Metal matting laid from ship to shore gives vehicles a 'road'



Not to be outdone by their mechanics Mack branch managers in New York area took schooling in diesel service. Left to right: Messrs. Fessler, Fischer, Lungreen, Drumm, Lumbreyer and



U. S. Asbestos (Grey-Rock products) being awarded Army-Navy "E" flag at ceremonies in Manheim, Pa., attended by 1500 persons



In the foreground is a new piece of hayburning equipment purchased by Schumacher Motor Express, Eau Claire, Wis. In background is a stainless steel Fruehauf

RNAL

FLEET EXPERIENCE WITH WAR TIRES

(CONTINUED FROM PAGE 39)

Size 9.00-20 Experience

In the case of 9.00-20 tires average original mileages average out as follows: Pre-war tires, 53,505 miles; "AA" tires, 35,900 miles or 32 per cent less; "AB" tires, 26,155 miles or 51 per cent less.

Mileages reported ranged as follows: Pre-war tires, from 24,000 to 100,000 miles; "AA" tires, from 8500 to 60,000; "AB" tires, from 10,000 to 43,394.

Size 10.00-20 Experience

For tires in size 10.00-20 the aver-

age original mileages reported averaged out as follows: Pre-war tires, 56,880; "AA" tires, 31,691 or 42 per cent less; "AB" tires, 26,676 miles or 53 per cent less.

The range of mileages was as follows: Pre-war tires, from 22,000 to 115,000 miles; "AA" tires, from 8500 to 60,000 miles; "AB" tires from 11,000 to 55,300 miles.

"AA" and "AB" Failures

The experience with premature failures of "AA" and "AB" tires defies analysis. The tabulation gives the number of failures reported, the causes of failures and the approximate mileages at which the failures occurred. Experience as to the mileages at which premature failures occurred ranged widely.

The causes of premature failures also ran the gamut. Both "AA" and "AB" failed for the following causes: Tread separation, rapid tread wear, bead failure, blow outs, heat blows, ply separation, tread and carcass cracking and cord separation. An additional cause of "AB" failure was "shoulder break."

Wartime-Recap Experience

Experience with pre-war and wartime recapping stock is shown in a separate tabulation. The experience reported is with pre-war recap stock on pre-war tires, "A" stock on "AA" and "AB" tires, and "C" stock on "AA" and "AB" tires.

The extra mileage reported from recapping averaged out as follows: Pre-war stock on pre-war tires, 53,393 additional miles; "A" stock on war tires, 31,637 miles or 40 per cent less; "C" stock on war tires, 22,534 miles or 57 per cent less.

The average recap mileages reported by the fleets ranged from 15,000 miles to 137,500 in the case of pre-war stock on pre-war tires; from 5000 to 90,000 miles for "A" stock on war tires, and from 5000 to 50,000 for "C" stock on war tires.

What will be immediately noticeable upon a study of the tabulation is the fewness of third recaps with pre-war materials, and the fewness of even second recaps with war materials.

Recap Failure Causes

The failure of recapped "AA" and "AB" tires was ascribed to a variety of causes. These included break in cord, blow outs, premature tread wear, unclean application of tread, shoulder coming loose, tread separation, tread and shoulder cracks.

An effort was made to get the approximate total mileage (original plus recap) at which the recap failures occurred. Although total mileage was clearly defined, many of the answers were at such variance with the average original mileage reported for similar tires that it was apparent the question had been misinterpreted. The tabulation consequently has not been published.

Results of Special Tests

An effort also was made to get the results of special tests which might (TURN TO PAGE 72, PLEASE)

WAR RECAP EXPERIENCE

		RE	CAP MILE	AGE		RECAP FAILURES OF "A" & "AB" TIRES				
Operator No.	Type of Tread Stock	1st Recap (Average Mileage)	2nd Recap (Average Mileage)	3rd Recap (Average Mileage)	Total Recap Mileage	Tyne of Tire	No. Recap Failures	Nature of Failures		
1	/See On	erator No.	1 comment	in article)						
3	(See Op P.W. A	erator No. 52,500 35,000	2 comment 85,000 55,000	in article) (front only) (front only)	137,500 90,000	AB	12	Break in cord		
4	P.W.	15,000 20,000 15,000	25,000 None None	(front only) None None	40,000 20,000 15,000 10,000	AA AB	10 17	Blow outs; premature wear Blow outs; premature wear		
5	P.W.	10,000 20,000 8,000 5,000	None None None	None None None	20,000 8,000 5,000	AA AB	50% 85%	Blown Blown		
6	P.W.	20,000 18,000 16,000	3,000 None None	None None None	23,000 18,000 16,000	AA AB	18% 25%	Premature tread wear Premature tread wear		
7	P.W.	27,500 25,000 12,000	27,500 25,000 12,000	******	55,000 50,000 24,000	AB	8%	Unclean application of tread Unclean application of tread		
8	P.W.	22,231 17,260 14,175	18,125 11,950 9,850	11,243 None None	51,599 29,210 24,025	AB	27	Shoulder coming loose		
10	P.W.	ta given 71,719 46,425 15,850	None 2,600 None	None None None	71,719 49,025 15,850	AA AB	5	Tread separation Tread separation		
11 12	(See Op P.W.	erator No. 31,058	11 commen None	t in article) None	31,058	AB AA	55 28	Tread came off Tread shoulder cracks		
13	P.W.	12,018 25,000 17,500	None None	None None	12,018 25,000 17,500	AB	64 4	Separation in shoulders Rubber loose; tread cracking		
14	P.W.	50,000 30,000 18,000	None None None	None None None	50,000 30,000 18,000			No carcass failures		
15 16	P.W.	erator No. 25,000 15,000	25,000 15,000	t in article) 25,000 15,000	75,000 45,000	AA	50%	Tread separation and shoulder separation blows		
17 18	P.W.	50,000 50,000 50,000	None None None	t in article) None None None	50,000 50,000 50,000	AA (See	1 Operator	Cap peeled off No. 18 comment in article)		
19	P.W.	30,000 20,000	None 6,000	None None	30,000 26,000	AB (See	2 Operator	Blown at shoulder No. 19 comment in article)		
20	P.W.	25,000 10,000 5,000	18,000 None None	10,000 None None	53,000 10,000 5,000	(See	Operator	No. 20 comment in article)		
21	P.W.	15,000 5,000	None None	None None	15,000 5,000			None		
22	P.W.	60,000 45,000 20,000	45,000 30,000 20,000	None None None	105,000 75,000 40,000	AA AB (See	Operator	Loose shids.; tread separation Loose shids.; tread separation No. 22 comment in article)		
23 24	P.W.	parative da 10,000 5,000	5,000	None None	15,000 10,000	AA	50%	Cord breakage		
25 26	P.W. C P.W.	80% 50% 25,000	80% 40% 25,000	70% None	50,000	AA	Several	Blowouts; fast wear		
27	A No com	8,500	7,500	******	16,000					
28	No com	parative da	ta given							
29	A.W.	parative de 40,000 15,000	15,000	30,000 12,000	100,000 42,000					
30.	P.W.	90,000 35,000	None None	None None	90,000 35,000	(See	Operator	No. 30 comment in article)		

Abbreviations: P.W.-Pre War

ONE WAY TO RELIEVE THE Motor Transport Crisis



The Vehicles and Men Available Can Do More Work!

RIGHT NOW highway transportation in every State in the Union is breaking down. Lack of vehicles and manpower is responsible.

The Office of Defense Transportation, which is charged with the duty of keeping highway transportation functioning, has called attention to the seriousness of the situation. So have officials of the War Production Board and the military services.

They see the urgent need for more vehicles and more men . . . but we are not going to get enough because strictly military production must come first.

What can we do? We can make the trucks and men that are available do more work!

How? By removing the restrictions which prevent the available vehicles and men from transporting the loads of which they are cap-

Every hour of every day trucks and trailers roll over the highways underloaded-because some State along the route has a weight limitation which is lower than the others.

The laws of the most restrictive State control the entire haul!

Thousands of extra tons of war material could be moved-with existing vehicles and manpower-if either or both of these two actions were taken by the States:

- · Liberalize their vehicle size and weight laws in line with other States . . . or
- · Establish reciprocity between States-permit a vehicle which is of legal size and weight in its "home" State to travel unmolested in all others.

That's all that is necessary to enable present vehicles and the men who operate them to do more work - and at least relieve the motor transport crisis!

What About Your State?

Do you live in a "bottleneck" State-or, is your State bottled up by adjoining States? If you want to find out how you stand, send for our booklet "Are the United States United?" or request it through the Fruehauf branch in your city. Read it-then write your Congressmen and State officials.



TYPICAL EXAMPLES OF WASTED HAULAGE CAPACITY



A TRACTOR-TRAILER LOADED TO PRACTICAL

WOULD HAVE TO UNLOAD THE WEIGHT SHOWN IN:

	N.Y.	N.J.	PA.	OHIO	IND.	ILL.
New York		None	5,000#	6,000#	6,000#	10,000#
New Jersey	1,000#		6,000#	7,000#	7,000#	11,000#
Penn.	None	None		1,000#	1,000#	5,000#
Ohio	None	None	None		None	4,000#
Indiana	None	None	None	None		4,000#
Illinois		All States or	This Route	Permit More	Than Illinois	

(Weights are based on a practical application of the various yard-sticks in effect in different States for computing gross weight allowances.)

World's Largest Builders of Truck-Trailers

Service in Principal Cities

TRAILER COMPANY DETROIT

res

nd 25

ar.

ass An vas

ara a nce ock

A" on

om

ws:

53.-

on

per

res.

re-

rom

case

res;

"A"

0 to

tice-

tion

with

ness

ma-

and

riety

k in

read

ead. ara-

apginal

fail-

mile-

f the with rewas misonse-

et the

night

URN AL

S.

FLEET EXPERIENCE WITH WAR TIRES

(CONTINUED FROM PAGE 70)

have been made of wartime tires with each other or with pre-war tires. The following reports were received:

Operator No. 6—"48 'AB' 9.00-20, 12-ply tires were given special test; 36 failed, averaging 9-11,000 miles only. 'AB' tires have wasted more rubber than they have gained by including less crude rubber. 'AA' tires show fair tread wear; experience of carcass strength for recapping not yet conclusive."

Operator No. 8—"I have run 'AA' on one side and pre-war on the other and got about 15,000 more miles out of pre-war before recapping."

Operator No. 11—"We ran several pre-war tires with 'AB' tires and the 'AB' wore out 2 to 1 of pre-war."

Operator No. 12—"A pre-war 10.00-22 on right front of tractor in service from Jan. 2, 1943, to date (Feb. 1, 1944) has given 100,000 miles on original tread. On other wheels to date five war tires have worn smooth."

Operator No. 19—"Operated two pre-war 10.00-20 tires against two 'AA' war tires on drivers. Recapped 'AA' tires at 36,000 miles. Pre-war tire still shows tread at 46,000 miles."

Operator No. 22—"We have run 'AA' war tires alongside of pre-war tires and we noticed that war tire wears treads off faster by 25 to 30 per cent."

Operator No. 30—"Tried 'AA' and 'AB' tires on alternate wheels and fronts. The 'AB' tires were almost worthless. Very few lasted 25,000 miles. The 'AA' were a little better but no comparison to pre-war."

Recapping Comments

Operator No. 1—"Due to shortage of help we do not have accurate information on recapping. However, a spot check leads us to believe that we only obtain 25 per cent of pre-war recap mileage."

Operator No. 2—"Just began recapping on 'AA' tires. Our tire company doesn't care to recap 'AB' tires. One blew in 100 miles. Recaps appear to be holding up on 'AA' tires. Please keep government from insisting on synthetics." Operator No. 11—"War tires not fit for second recap."

Operator N. 15—"Our experience indicates that we are wasting money and material in recapping 10.00-20 tires for long distance work. They quite often fail after recapping in the first 3000 miles; 9.00-20 a little more satisfactory."

Operator No. 16—"Fifty per cent of the 'AA' tires blow after first recap. Our opinion is that due to quality of tires and rubber it is not proper to recap tire more than once."

Operator No. 17—"No recaps used on our operation until tire rationing. We have tried three different recappers. Our first two suppliers, through poor inspection of casings, averaged 20 per cent failure of all recaps complete. Five months ago we changed to a tire company and since then have had four failures out of 140 tires recapped. Sixty of these caps are of synthetic material."

Operator No. 18—"We recap only once. We have had pretty good luck with 'AA' tires and recaps by close supervision of air pressures and overloads."

Operator No. 19—See comment above under "Results of Special Tests."

Operator No. 20—"In our operation, which requires a great deal of off-the-highway work we have had consistent failure on 'AA' and 'AB' tires. Majority of failures are due to rigidity and heat."

Operator No. 22—"In comparison with pre-war tires or pre-war recapping we are not getting the same mileage from war 'AA' tires or recaps. We inspect tires very closely for nail holes, cuts and bruises before recapping but cannot seem to get the service from war rubber that we got from pre-war rubber.

Operator No. 30—"Caps loosened (on war tires) splitting down center. Large percentage of blow outs. Our tire costs in 1943 were more than double those of 1942."

END

(Please resume your reading on P. 40)

Dr. Wilson Rate Chief

Dr. G. Lloyd Wilson has been named chief consultant on rates for the ODT to serve on Director Eastman's personal staff as advisor on rate matters.

OPA NEWS

(CONTINUED FROM PAGE 62)

No Increment Allowed on New Trucks After Apr. 30

No allowance for maintenance and storage of new automobiles and commercial vehicles can be included in dealers' maximum prices for any period after April 30, 1944, the OPA has announced.

Increment was originally provided under rationing to compensate sellers for maintenance and storage expenses incurred in holding stocks of new vehicles for an unusual period of time.

Since last July 1, dealers have been given the opportunity of disposing of the small number of new vehicles to the Reconstruction Finance Corp. under the Murray-Patman Act of May 11, 1942, at ceiling prices, including earned increment, or retaining the vehicles for sales to certificate holders.

Therefore, unless a dealer so chooses, he is not required to hold his vehicles and incur maintenance and storage expenses.

In the case of commercial vehicles, a further reason for discontinuing increment is the fact that the War Production Board has authorized the production in 1944 of some new commercial vehicles. No increment will be provided for these vehicles since they will be released in a manner that will not necessitate holding them for an abnormal period of time.

Tire Eligibility Revised

Effective Feb. 1, OPA abandoned the existing regulation that only those persons holding gasoline rations good for driving 601 miles a month or more can qualify for Grade I tires-new pre-war tires or new tires made of synthetic rubber. Thereafter, any person who drives his car in connection with a highly essential occupation, regardless of his gasoline ration, may apply for a ration certificate good for buying a Grade I tire, or, if such a tire is not available, he may obtain a certificate for a Grade III tire (used tires or new tires made principally from reclaimed rubber). The remaining supply of Grade III tires will go to persons doing occupational driving of a less essential character.

END

(Please resume your reading on P. 64)



Ls custom-built truck bodies meet your exact specifications

Truck bodies of Lindsay Structure, modern method of light steel construction, can be engineered to almost any style and to any desired size. To all the other advantages of Lindsay Structure—high strength-weight ratio, low operating and maintenance costs, ease of repair, and striking modern appearance—are added the serviceability and convenience of a body custom-built to meet your needs.

In planning now for post-war competition, check the possibilities of Lindsay Structure truck bodies—custom-built or in a standard size and style. Send your blueprints, drawings, or data to Lindsay and Lindsay, Adams-Franklin Building, Chicago 6, Illinois; or to 60 East 42nd Street, New York 17, New York.

Lindsay Structure, with its "pretensed sheets," achieves extraordinary strength and lightness.

Lindsay Structure Bodies have won top honors in the most gruelling tests in the history of transportation.



LINDSAY

5

STRUCTURE

U. S. Patents 2017629, 2263510, 2263511
U.S. and Foreign Patents and Patents Pending
For details, see Sweet's Catalog File

DISTRIBUTORS AND DEALERS THROUGHOUT THE COUNTRY

and oml in any OPA

ded llers nses veime. been sing icles orp. of intaincate

so hold ance

cles,

g in-Pro-

the com-

will since nner them

oned

only

ra-

les a

rade

new

bber.

rives

ighly

of his

ng a s not ficate es or m re-ining go to riving

. 64)

URNAL



Top. This low bed trailer is moving tail sections and the gunner's "bay window" to the assembly lines. Center. Ingenious racks permit wing sections

to be packed like sardines. Two semitrailer loads fill the car. Bottom. Another bomber wing section rolls to assembly on this specially tailored semi

TRAILERS LINK PLANE PRODUCTION LINES

(CONTINUED FROM PAGE 53)

Segundo plant, 10 semis and five tractors, and at the Long Beach plant, 13 semis and six tractors. They are all open flats with stakes and are 22 ft. and 35 ft., approximately 50-50 each. There are slightly more 22's because

they are operated as doubles with converter gears. Of these 10 tractors and 12 semis are rented. Fourwheel trailers are used as secondary units with semis. The 35-footers handle bulk parts such as fuselages, wing and tail assemblies; the shorter trailers the heavier parts. Average number of trips per day vary; depends on distances.

For instance on the Southgate to

Santa Monica shuttle run, there are six 35-foot semis handled by two trac-The distance is 20 miles each Time allotted for round trip wav. is 1 hr. and 20 min. Tractor can make the trip in 1 hr. but is scheduled to allow ample time for loading and unloading trailer so tractor deadtime is kept at a minimum. In this way two tractors with the six semis do the work of six powered units of the truck type, proving the worth of the semi-trailer. When it is necessary to move sheet and bar stock from the Southgate plant to Santa Monica, the 22-footers are put into service because of the weight of the material.

The longest run made is to Daggett, a distance of 160 miles each way. Truck and trailer units handle general parts to modification plant there. A modification plant is one that makes requested changes on planes flown in as changes are necessary before same are included in design for new planes on production line. This avoids interruption of assembly flow. This permits prompt application of advanced design to models already completed, before they move overseas. The largest single load is of the A20B fuselage, Santa Monica to Long Beach, 30 miles-a bulky shipment on 35-foot semi.

Douglas Long Beach truck-trailers supply parts from what are known as producer plants at Elsinor and Ocean-side, Cal., a distance of 70 miles one way. These plants manufacture parts and are operated by Douglas employees resident in the towns named.

Douglas El Segunda plant units haul from Santa Barbara, Cal., 13-ft. high wing sections using 35-foot semis and tractor over a distance of 95 miles one way. Time is about $2\frac{1}{2}$ hr., or 5 hr. for the round trip. This movement is maintained on regular schedule, making possible about four and one half round trips each 24 hr., everything going off as planned. Average load factor is 90 per cent.

Lockheed at Burbank, Cal., have about the same program, with 66 trailers of 22 to 35 ft. including 16 35-ft. semi-trailer vans for bulky shipments, with no hired units. Thirty-five tractors supply power, and most of movement is over-the-road between Burbank and Santa Barbara, 100 miles; Fresno, 225 miles; Taft, 110

(TURN TO PAGE 76, PLEASE)



SEALED POWER PISTON RINGS

BEST IN NEW TRUCKS! BEST IN OLD TRUCKS!

RNAL

POWER

TRAILERS LINK PLANE PRODUCTION LINES

(CONTINUED FROM PAGE 74)

miles; and Bakersfield, 105 miles. Trips vary in number and so does time. Average load factor is same as at Douglas.

What is so with Douglas and Lockheed is characteristic of the other plane plants, and truck-trailers in service total approximately 225 units with a number under construction. The truck-tractors in service by plants are estimated at 48.

An important part of the plane industry is served by the regular truck carriers. One of these, the System Freight Lines, of Los Angeles, devotes 30 per cent of its space to such cargo and averages 6,000,000 lb. of it per Their total equipment in over-the-road service includes 60 semi-trailers and 52 tractors. A large part of this tonnage originates in Portland, Ore., at the Columbia Aircraft Co. for delivery to the Consolidated Aircraft Co. at San Diego, Cal. On this 1190-mile run special 35-ft. flat racks with cradles are used. The semis handle a maximum load of 15 ft. 6 in. in heighth and the run is made in 40 hr.

System also handles parts from Los Angeles and San Diego to Arizona points delivery, and for interchange to Texas, Missouri and New York destinations. Equipment includes 35-40-ft. van and stake semis. On the return run, they handle parts from Richfield Park, Ariz., to Consolidated at San Diego, and to Rohr Aircraft at nearby Chula Vista; also to Burbank for Vega. Special equipment includes 40x81 ft. underslung semis with dual axles and 9.00x15 tires.

Other runs by System include plane part tonnage for interchange at Tucson, Ariz., to Benbrook, Tex., 1414 miles; for Consolidated, North American at Missouri and Texas points, including Kansas City, 1618 miles; Ryan Aircraft San Diego to Republic Aircraft at Farmingdale, N. Y., 2838 miles,

Colletti Fast Freight handles shipments from Boeing at Seattle, Wash., for Douglas, Vega and Lockheed in the Los Angeles district, a distance of 1227 miles, with their regular equipment—raw material up and manufactured parts on return southbound.

Pacific Freight Lines are hauling

60 per cent government freight of which 15 per cent is aircraft parts for the Army Air Base at San Bernardino, Cal.; and from there to Tucson and Phoenix, Ariz. This includes engines for reconditioning at San Bernardino and reconditioned engines back to the Arizona points. Old and new parts are included in movement. Parts are also handled between the Downey and San Diego plants of Consolidated Aircraft. P.F.L. equipment includes 242 semis, 45 four-wheel trailers and 141 truck tractors.

Special service in crating, packing and hauling of airplane parts is performed by Lyon Van and Storage Co. whose head office is in Los Angeles. They specialize in handling waterborne shipments from Vega, Lockheed and Consolidated from Alhambra, Long Beach and San Diego airports where planes are disassembled after flight from factories. Their equipment for this service includes eight semis up to 35 ft. and seven truck tractors. One is three axle for heavy loads, others are equal single and double axles with 9.00x15 tires. Another important service rendered by Lyon is that of salvaging wrecked and damaged planes from any point west of the Mississippi River, using special equipment.

This special equipment consists of a fleet of 35-ft. flat bed semis with a width of 8 ft. having Lyon-patented cradles that may be extended to 12 ft. and again to 20 ft. These low-bed rigs have a single axle which is of telescopic construction as is frame, another Lyon patented feature. This permits handling complete planes up to and including large bombers and transports. Tires are duals, 8.25-9.00 by 15 in.

To handle salvaged planes, which have a way of dropping into the worst kind of places, Lyon has developed a special winch and rigging that is part of each truck. But when the big ones drop into tough terrain, a special hoist with plenty of steel cable is skidded onto one of the low-beds and it goes along to lend a hand on retrieving wrecks. This operates by tractor power through regular winch set-up and gets the toughest jobs done in the tightest places.

As an instance: Two big bombers weighing 16,000 lb. went down in the wilds of New Mexico and the SOS went out to Lyon at Alhambra (Cal.)

airport. Two rigs went out, no extra hoist being needed, from report. Trails were swamped out by the Army, and the time was 13 days for the round trip of 2000 miles, five going with eight on return including one day stop-over enroute for rest. Each trailer brought back a plane with highway escort because of width and height. Wings were demounted and folded alongside body. A drawline was used to get planes out of scrub and aboard trailers.

Returning with planes, at one stream because of narrow and weightrestricted bridge, it was necessary to detour through stream bed which was soft. The procedure was to run one tractor across, snub it to anchors, pay out cable to second tractor that was assisted by the station wagon, then, with the help of the first tractor's winch, the outfit slogged across with the rigs bogged to the axles. Time consumed in this operation was 15 hr. Then they hit a cloudburst, something that in the desert wastes is like Superman on a spree. But, all intact, the airport was reached and it was just another day in the busy life of the salvage crew.

An up-to-the-minute report by the California Railroad Commission shows the immediate need for 5608 new truck units in this one state alone. Of this amount, 1899 are trailers. With 6948 trailers in various stages of rheumatic decay still dragging their tails over the deteriorating highways, this 1899 required new trailers represents 27 per cent of the number now in service.

This is approximately 13.5 per cent of the nation's total of 14,067 (many more than 10 yr. old) trucktrailers authorized for 1944's first half of production. And there are 48 states at the last count. The estimate by the truck-trailer manufacturers is a minimum of 36,000 trailers—NOW!—with a total of not less than 50,000 for the full year.

And the truck-trailer builders say it can be done—without interrupting war production, too. Conservation is the very key-note of the truck-trailer idea, because it increases the capacity of power unit 200 to 400 per cent. And this goes double handling light, bulky loads, such as are hauled in the airplane industry, where weight is the exception.

END

(Please resume your reading on P. 54)

A MILLION MILES A YEAR ON PENNSYLVANIAS

says Leonard Bros., Motor Express

ort. the for

ing est. ane dth ted awof

one ghtto was one pay was en, or's rith ime 15 melike act, was of

the ion 608 tate are aristill dereper 2. per 067 ickfirst 48 nate s is

's-

han

say

n is riler pacent. ght, in

ight

54)





Have the Pennsylvania dealer check your duals regularly with the scientific, new Pennsylvania "Match-Your-Duals" Gauge—a Pennsylvania service to save you money.

For details write direct to Pennsylvania Rubber Co., Dept. CCJ-3, Jeannette, Penna.

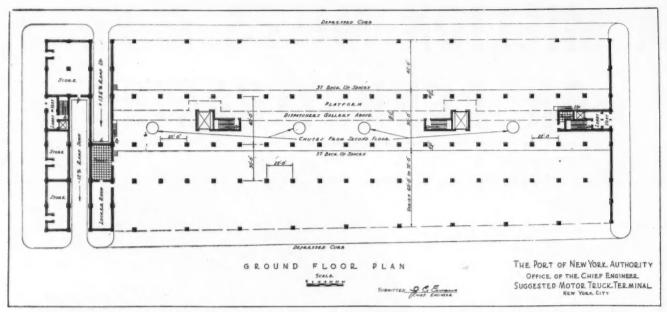
PENNSYLVANIA TIRES

MANUFACTURED BY THE ORIGINATORS OF THE SILINE VACUUM CUP Time

Pennsylvania is one of several associated companies operating the Copolymer Corporation at Baton Rouge, La., the first plant to produce synthetic rubber for the United States Government.

506

Use postage-paid card inserted in this issue for free information on advertised products



This is the first floor layout as shown in the preliminary plans for the Union Truck Terminal in New York City

TRUCK TERMINAL TO SAVE 1,800,000 MILES

(CONTINUED FROM PAGE 57)

of the attainable economies and the improvement in the possible routings of essential war material resulted not only in a sweeping Army approval but a call has come for the drawing up of a similar survey in Chicago.

Savings to be achieved in labor, tires, gasoline and other essentials make a terrific case for the union truck terminal idea. Large as some of the achievements which already have been recorded loom in these items, the projected statistics of New York's first union truck terminal venture under war conditions make previous estimates seem moderate. Here are some of the predictions:

Saving of gasoline

Average all-around increase in efficiency of individual truckers operating out of the proposed terminal

The money represented by these savings "ain't hay." Especially with the current manpower problems (and it is conceded these will not change soon), such figures as have been cited would make a radical change for the better in any operating statement.

There is much data in the WPB files to support the above predictions. The methods by which they have been arrived at, are the result of a study made jointly by a group of local truck operators, the Port Authority and the City of New York.

Mr. A. D. "Dan" Boone, chairman of the Operators' Committee working for the union truck terminal, is firmly of the conviction that the war situation has accentuated the desirability of immediate building.

"The terminal would play an important part in speeding the movement of vital war materials," he said. "Long distance carriers operating to the Port of New York tell us that approximately 50 per cent of their freight is made up of war materials. The increased movement of essential freight to and from overseas piers and war plants has intensified the need for terminal improvements. Nearly 800,000 tons of freight per month is delivered to steamship piers by truck. Partial loading of trucks is one of the great wastes in handling this freight. Delays also accumulate for the same fundamental reason."

Preliminary Plans

Here are some of the highlights of the preliminary construction plans which have been drawn up.

SIZE: A four-story and basement structure covering a ground area of 78,000 sq. ft. Total floor space, 385,000 sq. ft. (about a city block). Recent borings at the most probable site resulted in decision to add a base-

ment which like the main floors will be directly accessible from the street level.

COST ESTIMATE: \$2,150,000.

CAPACITY: 1500 tons of freight in a normal working day; 3000 tons on a 24-hour operation.

STEEL REQUIRED: 2200 tons.

OUTSTANDING FEATURES: A length of the building gallery for complete supervision of all freight handling, so that dispatchers will be able to see and talk direct with the men working on every loading platform. Complete two-way loud speaker communication system covering inside and outside premises. Rotary conveyors to handle the distribution of some freight. Four wheel detachable dollies with overhead handling facilities may be alternately used. Some cranes.

SYSTEM: Something like an industrial plant assembly line with reverse and intermittent applications. Two giant freight elevators, two large passenger elevators, and four spiral chutes.

MACHINE SHOP AND REPAIR FACILITIES: Although the policy will be to ask carriers to have their principal and usual maintenance facilities done elsewhere, the terminal will include a complete machine shop with skilled repair operators.

As the basement will be used mostly for storage, for trucks, and equipment not yet ready to go to the loading platforms, it will be the space on the street and the floor above for

(TURN TO PAGE 80, PLEASE)

FOR LUFER AXLES



In designing any such equipment as a mobile Diesel generator unit, its builders know in advance that they must provide the sort of dependability that defies any emergency situation, including poor roads or no roads . . .

vill eet

ght ons

A for ght be the latker inary ion ching sed.

inreons. rge iral

IR

licy

neir

fa-

inal

hop

ost-

uipoadon

for

INAL

That's why we're proud that Lufkin uses Shuler Axles in the type of equipment shown above. Not only because it's still another opportunity to do our part in this War, but also to continue learning things that will help us to supply even better commercial axles when Peace comes back again.

SHULER AXLE CO., Incorporated, LOUISVILLE, KY.

Export Division: 38 Pearl St., New York, N. Y.
West Coast Warehouse: Ford & Derby Streets, Oakland, Calif.

TRUCK TERMINAL TO SAVE 1,800,000 MILES

(CONTINUED FROM PAGE 78)

which the highest space rates are securable.

The Army has made suggestions with respect to the construction of the proposed edifice. These are said to reflect the experiences in London and other bombed cities which it has been possible to apply out of the current war. Military authorities take

the long view; that the disruption of vital freight transportation is one of the most demoralizing effects of overhead attack. Thus, it is presumed that the building will have a modern anti-bomb type roof.

A site which the leaders in the truck industry have had an eye on for years is the lot formerly occupied by the old New York Central freight terminal located at Laight and Hudson Streets, just south of the Holland Tunnel area. Some time ago, discussions took place relative to this loca-

tion but the railroad people are not anxious to sell.

The grapevine says that the old station site is less likely to be the location of the terminal than another two-block area not far away for which the trust limitations involving some key buildings have expired, which is considered quite ideal for the purpose. It is further stated that the terms of acquisition are "reasonable."

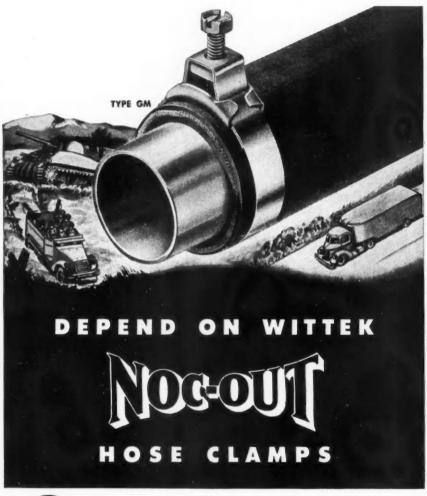
Dan Boone, who is chairman of the committee originally appointed by the president of the Middle States Motor Carrier Conference, is president of Gulf Car Loading Corp., the concern which originated the famous sea-train method of contact between New York, Florida and gulf ports. Other members include Walter Heckman, vice-president of Hudson Motor Freight Service, Inc.; Leon St. Jean, president of Sommers Motor Lines, Inc., and D. L. Sutherland, president of Middle Atlantic Transportation, Inc. The committee has been in close contact with the problem, and with the carriers who are the logical lines to combine non-competitive long distance interchange.

Since the first of the year there have been a series of meetings at which the manifest economies and increased efficiency have been measured in a practical way. The complementary local distribution will involve the selection of local truckmen, who will be picked for their ability to put a non-competitive system of zone deliveries into operation. The freight will be concentrated in the hands of local carriers who will not cross each others delivery limits.

Putting the zoning system in to practical effect is one of the principal objectives of the proponents of the plan. It is also the principal bugaboo of those who are against the union terminal idea, on the ground that it might prove to be the entering wedge in attempted municipal, state or national interference with the traditional freedom of enterprise in the trucking industry. The local cartage operator always has declared his right to deliver his goods where he pleased," "asking favor of no man."

The average cost of space now being used by competent freight carriers, through and local, located in the lower part of Manhattan is about 50 cents per square foot. One of the skeptics went back to "history" to

(TURN TO PAGE 82, PLEASE)





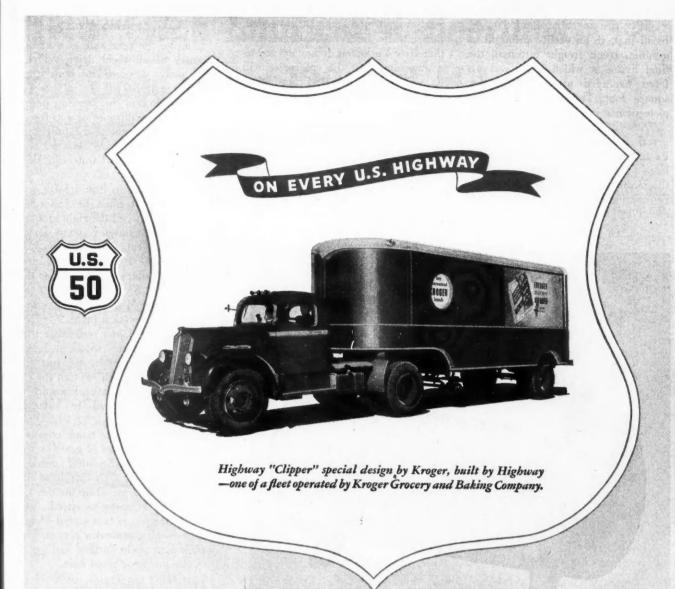
Type A — Adjustable For Replacement.

The standard of the industry. Quicktightening, perfect leak-proof hose connections, for original equipment and replacement. For Radiator, Heater, Booster Brakes and High Pressure hose connections. Wittek Manufacturing Co., 4305-15 W. 24th Place, Chicago, Ill.



Type HP-For High Pressure Require-

WITTEK NOC-OUT HOSE CLAMPS



The Food of Freedom rides in . . .

HIGHWAY AMERICA'S QUALITY TRAILERS

Trailers that lead!

On highways everywhere throughout the land, day and night—speeding the food and the freight of freedom, from where it is to where it has to be!

Now, if ever, quality counts—and the world knows there has been no compromise on the quality of Highway Trailers. That's why they are so incomparably dependable, even under this grueling war-service punishment.

You can depend that our engineers and craftsmen have their eyes and ears open—that, out of this super-wartime service, they are gaining experience—finding new ways to make Highway "Freightmaster" and "Clipper" Trailers, more than ever "The Trailers that Lead."

HIGHWAY TRAILER COMPANY



Factory and General Offices Edgerton, Wisconsin

Truck Trailers and Bodies • Earth Boring Machines • Winches and other Public Utility Equipment

h e is

f desi-essins.

t, e h

e

ıt.

di-e out e-ut of h

o al ie

0

n

it

an-

r-

to

e-

T-

in

ut

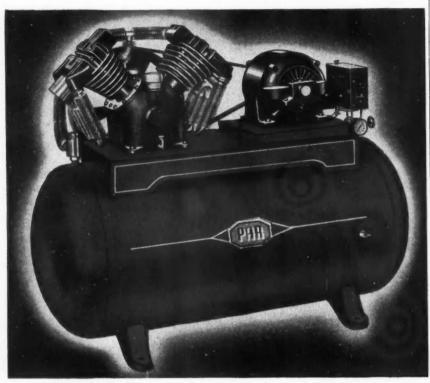
he to (CONTINUED FROM PAGE 80) recall that, in an earlier proposal of a union truck freight terminal, the final figure at which space was offered averaged around \$2.50 per square foot. The answer was complete silence in the trucking industry.

Those who are closest to the proposed new terminal are agreed that its facilities must be available on a basis of cost that will invite competition among the carriers who may be nominated as eligible and, with the Port of New York Authority

ready to put up \$2,500,000 if needed, they cite the fine practical record of that New York-New Jersey agency as a guarantee that the enterprise will be well run. They feel that when pleasure cars go back on city streets, after the war, congestion will be so great that it will be well to have a model of cooperation from which lessons may be learned on the modern handling of through and local freight.

ENT

(Please resume your reading on P. 58)



PAR MODEL 30

- A natural for stations and shops operating a multiple of pneumatical equipment.
- A Heavy Duty 3 H.P. two stage 4 cylinder compressor equipped with 80 gal. tank.
- Also available in 5 H.P. model.
 - Write for illustrated brochure of details.
 - BY COMPARISON-YOU'LL BUY PAR.

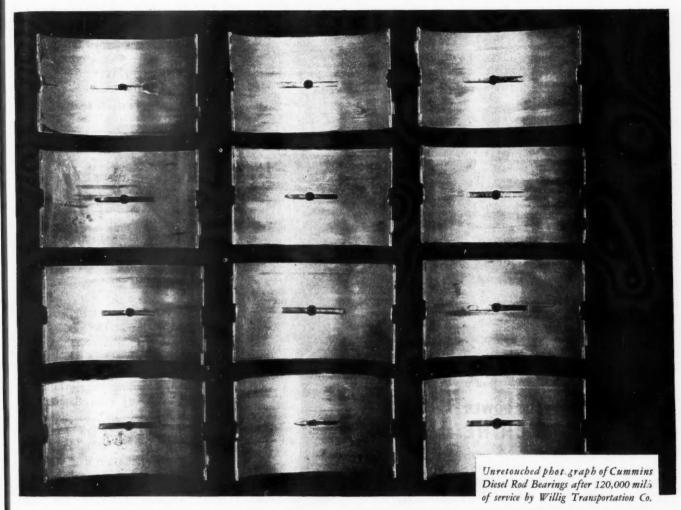
PAR DIVISION

LYNCH MANUFACTURING CORPORATION DEFIANCE, OHIO, U. S. A.

QUIZ ANSWERS

- 1. a. To the rear axle . . . except in cases of all-wheel drive vehicles when power is passed to both front and rear axles.
- 2. a. It lowers the freezing point, of course. The purpose of anti-freeze is to keep the water in a liquid state at a lower temperature than the normal freezing point of water, 32 deg. Fahr.
- 3. d. Gasoline in liquid form will not explode. It must be vaporized and mixed with just the right amount of air. The carburetor is the device that performs this delicate operation.
- 4. c. At the top of the cylinder, above the piston, is a space called the combustion chamber, where the burning or explosion of the gasoline and air mixture takes place.
- 5. b. If you'll just remember that Australia is in the southern hemisphere and its seasons are just the reverse of ours, you'll see that the oil in winter (warm weather) would be heavier than the oil in summer (cool weather).
- 6. c. When the the truck is going around a corner, a set of gears on the rear axle—the differential gears—allows the wheel on the inside of the curve to slow down while the one on the outside increases its speed. The action corresponds to a squad of soldiers marching around a corner. The outside man walks farther and faster than the inside or pivot man.
- 7. b. The accelerator, by controlling the carburetor throttle, controls the amount of gasoline vapor and air mixture that goes into the combustion chambers.
- 8. c. The oil pressure gage shows the pressure of the oil circulating to pressure is an important thing to the moving parts of the engine. Oil pressure is an important thing to watch. One might say that it's comparable to the blood pressure in a human being. "Too high" or "too low" both indicate trouble.
- 9. d. Neutral. Since the water comes into contact with metals of various kinds in the engine, it is best to have it so that it will offer the least opportunity for harmful chemical reactions.
- 10. b. When an engine is overheated, always let it cool off for a while before adding water. Pouring cold water into an overheated engine is likely to crack the cylinder block or cylinder head.

RING-FREE Lubricated Bearings Still Good After 120,000 Miles!



If you don't think there is a difference in motor oils . . . room for improvement in performance and economy resulting from better motor lubrication, try RING-FREE. Put Macmillan RING-FREE Motor Oil in the crankcase of the truck that is subject to your toughest run. Keep a record and compare. Here's what to expect:

1.— More fuel mileage; because RING-FREE reduces friction fast, delivers more power direct to the rear wheels; 2.— A sweeter running motor because RING-FREE lubricates more thoroughly due to fast penetration, high film strength, high heat resistance and long cling; 3.— Longer motor life and lower overhaul bills because RING-FREE reduces wear; 4.— If your motor is carboned-up, a cleaner motor results from RING-FREE because it removes carbon while the motor runs.

It will pay you to roll with Macmillan RING-FREE Motor Oil in the crankcases of all your gasoline and Diesel equipment.

MACMILLAN PETROLEUM CORPORATION

50 W. 50th Street, New York 20 •

624 S. Michigan Avenue, Chicago 5 • 530 W. 6th Street, Los Angeles 14
Copyright 1944 Macmillan Petroleum Corp.

Quoting the E. J. WILLIG TRUCK TRANSPORTATION COMPANY, San Francisco, California: "We recently removed a set of bearings from one of our trucks. As these bearings were in such good shape after 120,000 miles of service, we thought they might be of interest to you. Therefore, we are giving you these bearings as proof of satisfactory lubrication from use of Macmillan RING-FREE Oil."

MACMILLAN RING-FREE MOTOR OIL

REDUCES WEAR BY REDUCING FRICTION

te rg. ill ed nt ce on. er, he he

nithe oil be ner

ing
the
s—
the
on
The
solThe

rol-

rols

air bus-

ows

g to

to to

Oil

g to

com-

in a

"too

vater

s of

best

nemi-

over-

for

Poureated inder

URNAL

BODY EXPERIMENT HALVES COSTS

(CONTINUED FROM PAGE 47)

tween wheel housings and the load space length behind the driver's seat is only 8 ft., despite the longer wheelbase. The big bodies have 280 cu. ft. of load space and the small bodies have 141 cu. ft. I repeat that both are on a 1/2-ton chassis, even though the wheelbase is different.

Our experience shows that our men

machine. Actually, it's a complete relin-

ing-refacing department. Every known

labor saving feature is incorporated in

it's design. Write for catalog of the

complete "Chicago" line.

* SET BACK DELINER ... Full ision clearance. Motionless, ad-istable knockout punch. Built-i old rivet collector.

* DEEP THROAT . . . For easy

A ADJUSTABLE ANVIL

can load the roomy, man-high trucks with twice the payload in less time than it takes to load the low ceiling units. Our men can walk right into the large bodies without stooping over. This counts for a lot when their arms are full of bundles, and the roominess also makes it easy to arrange their bundles in less time.

Out on the routes, working the loads, the salesmen using the big bodies work them entirely from the front entrance and are saved backbreaking stooping over when getting the needed bundles at each stop. This saving of time and energy of our men is a material help in handling double the volume, as they do.

Obviously, our gasoline cost per dollar of volume is less than half as much for our big body units; there is a similar saving of license fees, insurance, tires, oil and repair costs per dollar of laundry delivered in the big body units.

These facts are confirmed by our other laundry at Havre de Grace, Md., so we think it is a basic condition and not merely the result of our greater population in Washington.

Therefore, as soon as war restrictions are lifted, it is our intention to equip all of our routes with manhigh extra load-space bodies. We are planning on sticking to a 1/2-ton chassis, unless there should be a great increase in post-war wet wash volume, in which case we would use the larger bodies on a 1-ton chassis. Our streets are well paved, we have few hills to worry about, and our laundry and dry cleaning load is light, so we prefer the economy of the 1/2-ton chassis (even when we overload it). We are convinced that the man-high feature is essential to save time in loading and working the load, hanging dry cleaned garments without folding, and so that our salesmen after the war can have more time to devote to actual customer contact and solicitation if needed.

Our men leave at 7 a. m. and are back at or before 3 p. m. Our big body units average 771 miles per month (five-day week), and our conventional body units average 1023 miles per month. Those 252 extra miles (to do half the volume) waste at least 10 hr. a month of the salesmen's time per route in driving. The greater time used per dollar of payload in loading and working the load in the ordinary bodies wastes another 20 hr. a month, as we estimate it, and perhaps more. But to our way of thinking, the best yardstick is the simple one of the volume handled by each type.

To

TH

de

wi

Di

ser

me

Since we can get more work to do than we can handle, each unit works to the limit of the driver's ability, energy and the truck's ability to carry the load. The fact that the man-high units consistently do twice as much volume as the low-ceiling

(TURN TO PAGE 87, PLEASE)



★ LOW HEAD . . . Specially designed to facilitate work even on small diameter bands.

* SHOE STRAIGHTENERS...

* DRILLING UNIT . . . Two-speed, V-belt drive, no hand pressurerequired, foot operated.

AND MACHINE CO.

TESTED AND APPROVED FOR

U. S. ARMY AND NAVY USE

★ GRINDING UNIT... Fully machined, large table, 6¼° cushioned abrasive drum.

★ CAPACITY . . . Up to ¼' diameter tubular or solid rivets.

★ POWERFUL... New toggle lever design.
 ★ QUIET... No noisy clatter.



Diamond T Model 614 with special van trailer, transports a valuable cargo of horses with speed and safety.

High among the Leaders!"

"Our 50 Diamond T Trucks . . . maintain exacting schedules . . . are economical . . . no trouble . . . unusual driver comfort"

-George C. Hendrie

HENDRIE & Co. are cartage agents for Canadian National Railways, operating in and between Toronto and Windsor. In this service, consistent "ontime" performance is naturally of vital importance. This condition of urgency lends emphasis to President Hendrie's comment on eight years of experience with Diamond T Trucks in this service. His report:

"We have steadily added to our fleet during the past eight years, and now operate fifty Diamond T Trucks of various models ... many of which are in their sixth or seventh year of service without receiving mechanical attention of a major nature.

o 1e n

sh se is. we ur is of we at to

he nts ur

re ier

are

big

per on-

)23 tra

iste les-The

ay-

oad

an-

nate

way

the

l by

do

orks

lity,

to

the wice iling "These trucks enable us to maintain exacting schedules ... they are economical... give no trouble, and possess unusual driver comfort. We place Diamond T high among the leaders in safe, dependable performance and fine appearance."

Diamond T has been authorized to build a limited number of commercial trucks this year. Several models from 1½ to 10 tons capacity will be avail-

able thru Diamond T dealers for operators whose service contributes



DIAMOND T MOTO



THIS recapper and McCREARY TIRE distributor understands his job and how it fits into our war effort. He speaks the truth! He says:

"Military men speak of 'logistics'. They mean the job of moving material, supplies, arms, ammunition and men up to their desired positions.

"Well — 'logistics' is like charity — it begins at home!

"It is just about as important to keep that endless chain of supplies running to the fronts right around our own neighborhood as it is further along the line. The chain must not be broken anywhere. Use the right tires—McCREARYS—and recap when necessary!"

For years McCREARY TIRES have been dedicated to this service of serving important trucking operations. The double economy of McCREARY TIRES plus

recapping has been known to careful operators for a long time. Now recapping is a vital necessity, and in the job give more original miles—more recaps per casing—more miles on each recap.

There is a scientific reason for their superiority—it is built right into the tire with premium methods of cord and bead construction.

McCREARY TIRE AND RUBBER CO.
INDIANA, PENNA.



BODY EXPERIMENT HALVES COSTS

(CONTINUED FROM PAGE 84)

trucks satisfies us that they are best for us and, if we cannot get them from truck manufacturers after the war, we will have them built special and have the driving controls moved forward by our auto repair shop, if we have to, to get the benefit of the short 113-in. wheelbase. However, we assume that once the truck industry gets the green light, we will again be able to get the big body units from the truck manufacturers.

Naturally, in saving more than half of the gasoline used, we have gone from two collections a week to one, and collect and deliver on the same trip. We now concentrate on family trade, the scarcity of manpower for the plant precluding our continuing to handle work for boarding houses, lodging houses and hotels.

Besides the 12 trucks, we are operating two more ½-ton units (older) with the low-ceiling bodies. Two other trucks are jacked up for the duration, to save gasoline and tires, and keep our mileage down.

Our maintenance of our fleet during the war has been simple because it is a "new fleet." We may be wrong, but we look at truck maintenance this way: We are in the laundry business and our attention is on laundry service and the machines and equipment in the laundry, since we are considered a well-equipped laundry with the latest and best equipment and plenty of it. We do not want to mix up maintenance nor divide our mechanics' attention between the plant and a garage shop. Therefore, we send our truck maintenance outside.

Chassis repairs go to a nearby auto repair shop. When we have any body repairs, they are sent to the truck branch here. Fortunately we have had only two collisions, and repainting of all our bodies has not come up yet.

In theory, it should cost us more to send this maintenance work out, but with the shortage of workers we are glad we do not have to worry about truck mechanics, and we would begrudge the space for a repair shop right now. We are not criticizing any one who has his own truck maintenance, we are just explaining what we do about it.

Our drivers have been with us from five to 12 years and we have not lost many through inductions so far, because we have settled, mature men mostly and with families. The only complaint we have from them right now is that those with the small bodies envy the commissions earned by those with the big body units.

We cannot do more volume in our present plant than we are doing right now, so our job is to deliver it more economically—with as few trucks as possible and at the lowest truck operating cost per dollar of sales. At least that is how it looks to us now.

We are fortunate that pure coincidence and the war gave us a better break on deliveries than we ever dreamed of when we bought our new fleet on a "half and half" basis as an experiment.

END

(Please resume your reading on P. 48)



WAGE INCENTIVE PLANS FOR FLEETS

(CONTINUED FROM PAGE 37)

are made for breakdowns, personal needs, fatigue, etc. A separate study would have to be made of different employees performing the same job and of one employee performing the same job at different times. This is done to prevent an unduly fast or slow worker from setting the standard. Ordinarily an experienced time

study man is required for this job. Through his work the standard for the various jobs would be established.

11. How Do You Use Fast Records to Set a "Standard?"

Your past production records will probably show the number of hours it took to perform each job. Select a period or periods of time when you operated under conditions similar to those you are now operating. Select the job or jobs for which you wish to set a standard and then compute the average time it took to perform each. For example: Your past production records show that during a certain two months' period your shop had eight jobs of installing new steering knuckle bolts. The total man-hours for these jobs were 40 hr. The average or standard time for this job would then be 5 hr.

12. What About Basing an Incentive Plan on a Worker's "Dollar Volume?"

"Dollar volume" is not considered a good yardstick of a worker's production because the War Labor Board feels that any standard based on other than a physical unit does not accurately measure production. "Dollar volume" can increase without any increase in worker production.

13. What if the Plan Results in a Worker Receiving Less Pay?

The War Labor Board will not approve a wage decrease. Your plan, therefore, should provide that your workers would earn as much as they did before. An easy way for you to do this is to guarantee the former hourly rate under the plan so that any bonus will be in addition to what was earned before.

14. What Steps Do you Take to Have a Wage Incentive Plan Approved?

1. Contact the nearest office of the Wage and Hour Division of the U. S. Department of Labor. Go there in person if you can because they will be able to answer a lot of your questions. For your convenience a complete list of these offices is attached to this bulletin.

2. Obtain NWLB Form 10 from the Wage and Hour Office. You can find out from these offices whether or not your proposed plan needs the approval of the War Labor Board. If it does, you will have to fill out Form 10. If necessary, the Wage and Hour office will assist you.

3. Prepare a Supplementary Statement concerning your plan. You will notice that Form 10 is used for all proposed wage adjustments. Where you are proposing to install an incentive plan the details of it must be set out in a separate statement.

4. Deliver Form 10 with the state-(Turn to Page 90, Please)



* REDUCES PERSONNEL ACCIDENTS! Loads are lifted to body

* REDUCES ACCIDENTAL DAMAGE TO VALUABLE MERCHANDISE!

controlled by one convenient lever.

or lowered to ground by powerful hydraulic hoist mechanism

Minimizes your damage losses.

ANTHONY'S ZB PLATFORM HOIST

The low price will surprise you. Write or wire for complete information. — Address: Department D-22

No skids, chains or cables to break or slip.

STREATOR, ILLINOIS



te m oa op

tal 40

ener's

red oroard on not Oolany

n a ay?
not lan, our chey to mer that what

e to Plan

the the

Go

ause

ot of

ence

s at-

from

can

ether

s the

oard.

Wage

Stateu will or all Where n inust be

state-

URNAL

E)

American Brakeblok "Regular" Brake Lining for manually operated braking systems.



2 American Brakeblok "1000 Series" Brake Lining for vacuum-booster braking systems.



American Brakeblok "2000 Series" and thick blocks for air brake equipment.



The correct Brake Lining for each job

Long hauls, overloads . . . quick stops, trucks on the road day in, day out . . . little time for checkups. That's where the long-lived brake lining pays big dividends.

American Brakeblok engineers designed three types of brake lining that can take it on tough jobs . . . each one in actual operation has re-

duced cost-per-mile brake maintenance for America's leading fleet owners.

In addition, the same research division that developed these efficient brake linings provides a FREE advisory service to help you get maximum results for those difficult hauls. If you have a problem job write

American Brakeblok Division, Detroit 9, Michigan

Master stocks in 37 NAPA warehouses. Jobbers everywhere give prompt service.



"STOPPER THE PUP" — American Brakeblok's whimsical character, is recognized by motorists as the symbol of safe-stop brake linings.



NAPA warehouses and jobbers everywhere provide prompt, convenient service.



WAGE INCENTIVE PLANS FOR FLEETS

(CONTINUED FROM PAGE 88)

ment to the Wage and Hour Office. After your application has been properly completed the Wage and Hour Office will forward it to the Regional War Labor Board for a decision. You will be notified of the result in due course. Do not put your plan into effect until it is approved by the WLB.

15. What Will Be Included in Your Application?

Your application will consist of:

- 1. NWLB Form 10. (Obtained from the Wage and Hour Office.)
 This is a general application form which is filled out whether you are seeking authority to install an incentive plan or to put a wage increase into effect.
- 2. A supplementary statement describing your proposed wage incentive plan. Following are the points

of information which should be included in the supplementary state-

1. List the number and types of workers covered by the plan.

2. State whether your standard production rates are based on a time study or on your past production records.

3. List specific information concerning your past production. This should be for the period immediately preceding your application. Indicate the dates covered. Include the following:

a. Type of job or operation.

b. Week or month (Jan. 2-8,

c. Number of units repaired during the period covered.

d. Number of hours needed to service the units.

4. Show, for each job or operation, to be included in the plan, (1) the average past production rate, and (2) your standard production rate.

5. Indicate your present hourly rate.

6. State the guaranteed hourly rate under the plan. (This may well be the same as your present rate.)

7. Describe the bonus that will be paid for production above standard. Show how the bonus will be computed

(A sample statement showing how the above points might be prepared is shown herewith.—Ed.)

16. Who Signs the Application?

You sign the application. If your employees are members of a labor organization it must also be approved and signed by their local representative.

17. Where Do You File the Application?

You file the application and supplementary statement with the Wage and Hour Office who will forward it to the Regional WLB for necessary action.

18. Is it Possible for Two or More Establishments in a Community to File a Joint Application for Approval of a Wage Incentive Plan?

Yes, this is permissible and is even advisable where present wage rates, (TURN TO PAGE 92, PLEASE)

GET THIS LONGER-MILEAGE "EXTRA" IN COOPER DSCs*

SCIENTIFIC *DISTRIBUTED

STRESS CONSTRUCTION

REDUCES FRICTION—CUTS

HEAT—GIVES GREATER TIRE

MILEAGE AT LESS COST





Rapid flexing of wire at one point causes heat and break. When flexing is distributed over longer length no heat generated, no break. (Principle of Cooper DSC tires.)

You need plenty of "extra" from your fleet these days—and that means "extra" from your trees. Cool-running Cooper DSCs are built for better than average truck tire performance—stand up under toughest load or road conditions—keep trucks rolling for Victory. Let your Cooper dealer

show you the fine results other fleets are getting with Cooper DSCs. No obligation.

THE COOPER CORPORATION . FINDLAY, OHIO



COOPER TRUCK TIRES

VIBRATION A PROBLEM?

NOT WITH TITEFLEX! The moment you switch to Titeflex flexible lines you can forget once and for all the bug-a-boo of vibration. At the same time, you can forget corrosion, abrasion, and the headaches that accompany high engine temperatures.

• For Titeflex is no ordinary tubing. Instead, Titeflex is designed as you yourself would design it—to do the work you expect of it. That's why Titeflex is metal—all metal, with nothing to disintegrate or "go bad." That's why all-metal Titeflex, unlike any other fuel

and oil line, cannot be damaged by the action of gasoline or oil. And that's why Titeflex has long been a "must" with automotive people who insist upon better flexible gas, oil, and air lines at lower, overall costs.

• Today, Titeflex is helping to keep the vehicles of war moving together with essential home-front transportation. Tomorrow it can play an increasing and *profitable* role in maintaining your standards of long, trouble-free service.

TITEFLEX, INC., 525 Frelinghuysen Ave., Newark 5, N. J.



MARCH, 1944

n

e

o

ell

d. n-

ed

ur or ed

liano

ipige it

moliige

ven tes,

NAL

WAGE INCENTIVE PLANS FOR FLEETS

(CONTINUED FROM PAGE 90)

working conditions, equipment, etc., are comparable. A joint application may result in a saving of both time and effort.

- 19. Does Approval of an Incentive Plan Prevent You From Getting an Increase in Your Wage Rates?
- No, you can request both a wage rate increase and installation of an incentive.
- But you cannot substitute an incentive wage plan for a wage increase.
- 3. The Board will not approve an incentive plan if it appears than an employer is seeking to install it for the express purpose of avoiding a justifiable increase in wages.
- 20. What Are Some of the Condi-

tions Under Which the WLB Will Grant Employees a Wage Increase?

In general, you can raise your wages:

- 1. If wage increases amounting to 15 per cent of average straight-time hourly earnings for January, 1941, have not been granted. This is the 15 per cent allowed under the "Little Steel" formula.
- 2. If wage rates are below the substandard rate set by the Regional War Labor Board in your area.
- 3. If wage rates are below the sound and tested going rates established by the Regional War Labor Board in your locality for the occupations involved.
- 4. If the work of your establishment is so vital to the effective prosecution of the war that your request constitutes a rare and unusual case requiring special treatment.

END

(Please resume your reading on P. 38)

WAR HAULS WAIT FOR PARTS AND LABOR

(CONTINUED FROM PAGE 41)

We can't afford to keep a single truck off the highways that possibly can be fixed. To illustrate: An important consignment had to go out and the only available truck was laid up waiting for parts. We had to rob another truck which was also out of operation waiting for parts, to get the shipment going.

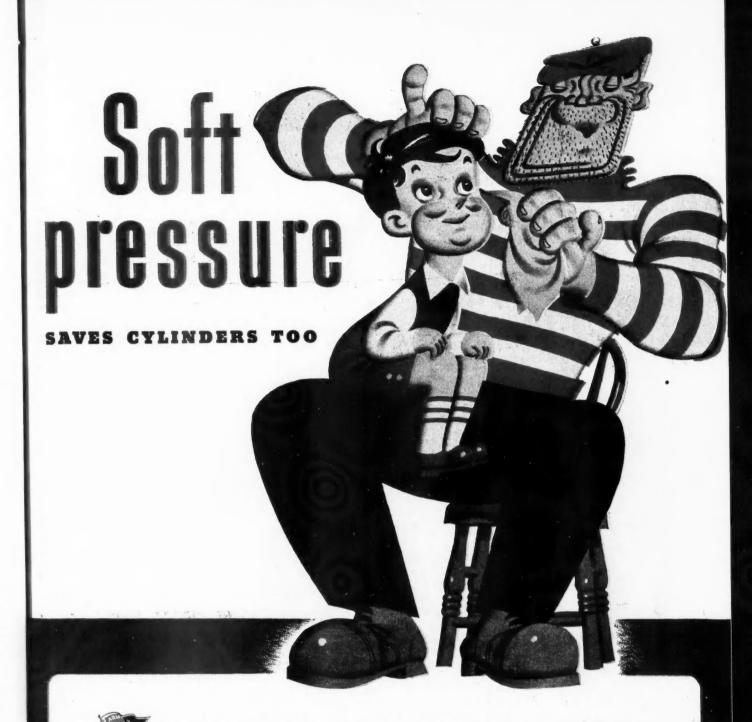
Right now we have a heavy duty tractor truck hung up because we cannot get valve guides. Another two-speed axle unit is laid up until the several parts ordered come in and can be installed.

One diesel job has been out of operation for a month waiting for transmission parts. Another diesel has been idle for a week waiting for a rear axle. There is no assurance from the suppliers when we can get them, if at all, to put these trucks back into service.

Ring gears and pinions are on the critical list in this category. Small items shortages are equally costly. For example, adapter pins for fifthwheels are hard to get and lay up trucks because of the shortages.

(TURN TO PAGE 94, PLEASE)





Wear is checked when soft pressure Steel-Vents are installed. And obviously, the slower the rate of wear the longer the cylinders will last. Save oil...

save fuel...check wear...by installing
Hastings Steel-Vents—in rebored, resleeved or badly tapered cylinders.

HASTINGS MANUFACTURING COMPANY, HASTINGS, MICH.
Hastings Mfg. of Canada, Ltd., Toronto

>HASTINGS

STEEL-VENT PISTON RINGS

Tough on oil-pumping Gentle on cylinder walls

It's a privilege to buy War Bonds



WAR HAULS WAIT FOR PARTS AND LABOR

(CONTINUED FROM PAGE 92)

R is procucally impossible to obtain replacement brake parts. Air parts and radios torque arms require four weeks, at least, to reach us. Shackle bolts that brake shoes for trailers are almost impossible to obtain. Water pumps of the packless type, the only ones that should be used on heavy duty tractor trucks,

are almost unavailable, and of lower quality. We can't even buy the parts to rebuild the ones we have; no kits, no pumps.

Another shortage that is putting a terrible strain on our maintenance program, and causing burdensome expenses which cannot be sustained indefinitely, is the lack of tools for each truck to make emergency road repairs. We are sorely in need of heavy duty lug wrenches. We simply cannot get them. This involves the time of a mechanic and a service

truck to go out 50 to 100 miles merely to help a driver make some slight adjustment or change a tire. The situation is getting worse. Six weeks ago, we averaged three trips out like this, each week. Today it is a daily routine, just because we cannot get tools. Jacks and lug wrenches are the most critical needs.

On engine and chassis maintenance, we are doing everything humanly possible to keep our trucks and trailers hauling for government needs. That is our patriotic duty, even though it is costing us thoulands of dollars in excess of pre-war maintenance costs. But our trucks are getting old and they are wearing out.

We still believe we can keep 'em rolling for the duration, however, if we can only get pre-war quality replacement parts promptly, or in sufficient quantities that we can stock them for immediate needs when break-downs occur. This, too, hinges upon our ability to get and retain enough mechanics to do the job. It would keep our operating costs in line and help the war effort, through better transportation, no end.

We can hardly calculate the extra cost burdens from using inferior parts. Main and connecting rod bearings, for example, give an average of 30 per cent shorter service. This is general, on all the units which have required wartime replacement bearings. They cannot stand the heat. The situation is chronic.

Valves are the worst offenders to date. We get was than 50 per cent of former mileage. Intakes and exhaust valves both cause trouble. The average mileage we get now is between 10,000 and 15,000 miles. But that is not all. Valves may fail any time. We have had them fail at 4000 miles. Unfortunately, the failure are chronic and cause damage to other engine parts, pistons, mings and sleeves.

We try to reduce these tailures by changing carburetor adjustments and keeping the carburetors clean. We make more frequent engine tune ups and put special emphasis on redoubled checks on carburetors and eleaning them thoroughly.

Fan belts of wartime quality are 50 per cent below pre-way belts. They rub off fast, then slip, and have to be replaced. Luckily, we can get

(TURN TO PAGE 96, PLEASE)



Army and Navy combat vehicles, farm and road-building machinery, diesel and gasoline engines, and all types of radiator hose are equipped and serviced with Central Universal Hose Clamps.



It's the clamp-power of Central Universal Hose Clamps that keeps the Army "Ducks" watertight and in action on land and water!

Made of extra-heavy rolled steel, the *Universal* is powerful enough to withstand abnormal pressure, stress and vibration. It is rustproof, leakproof, self-locking, 100% universal, and easy to use in hard-to-get-at places.

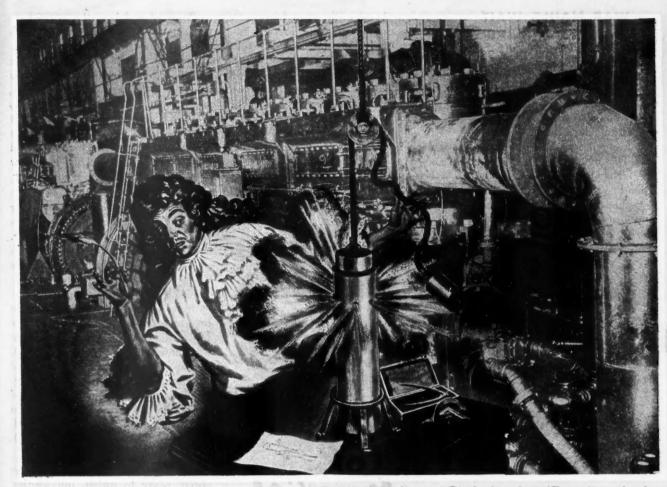
Standard for all service needs, it can be quickly installed or removed without disconnecting the line.

CENTRAL EQUIPMENT CO.

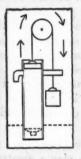
1618 SO. WABASH AVE., CHICAGO S, ILL



A SINGLE LENGTH UNIVERSAL CLAMP FITS HUNDREDS OF DIAMETER SIZES



FAIRBANKS-MORSE, big name in Diesels—descendants of Huygens' internal combustion engine of 1680—builds 52 models and sizes for the Armed Forces and the home front. Shell supplies both Diesel oil and Diesel fuel.



The veeks tike daily t get

ainteg hurucks
ment
duty,
thoue-war
rucks
aring

o 'em er, if ty resuffistock when ninges retain bb. It sts in rough

extra ferior

bearerage This which

ement I the

cent d ex-

. The

is be-

es are

other

res by

ts and

We ne-ups

doub-

belts.

an get

DURNAL

But any

POP goes the Diesel

Christian Huygens, "connecting link between Galileo and Newton," built an engine embodying a cylinder, piston, valves. For fuel he used gunpowder . . . Although

structural defects caused the abandonment of this design and nearly put an end to Huygens—it's the granddaddy of all combustion engines, most efficient of which is the modern Diesel.

Fairbanks-Morse makes more types of Diesels than any other firm in America. These supply motive power in submarines and PC's for the Navy; in tugs, cargo vessels, tankers for the Maritime Commission and Army. On the home front they're used in industrial and municipal power plants, locomotives and Marine service—for many another use.

Power for the vast Fairbanks-Morse plant is furnished from Diesels on test and in the powerhouse. For these engines Shell Dieseline is used as fuel—a Shell Diesel Oil as the lubricant. Shell Diesel Oil was chosen because of its remarkable performance in keeping Diesels clean, and because Fairbanks-Morse engineers were confident there would be no trouble in test runs due to faulty lubrication.

In tractors, trucks, buses, ships, in all types of Diesels on land and sea, you'll find this same confidence expressed by those who use Shell Diesel Lubricants...a confidence founded on the sterling performance of Shell Diesel Lubricants under all sorts of operating conditions.

Know what really dependable Diesel lubrication is—call in the Shell man now.



DIESEL LUBRICANTS

WAR HAULS WAIT FOR PARTS AND LABOR

(CONTINUED FROM PAGE 94)

these without delays. Wartime water pumps corrode faster, and the pump shafts and bearings failures are more frequent.

Wartime clutch linings give 50 per cent less mileage than pre-war quality. The material is not as good. The riveted seams break out all around.

As for rear axles, ring gears and

pinions break with more frequency. Delays in getting them are intolerable. Axle shaft breakage also is greater, caused by lower quality, not by inexperienced drivers. In spite of the critical labor shortages, we have managed to maintain a force of good drivers. A few are new, replacing those in the armed services. We tell them how inferior parts increase the need of careful driving. Also, that because our trucks are getting older, careful handling will help a bad situation. They co-operate splendidly.

We read and hear that steps have been taken to correct these conditions, but we see only a slight improvement. Some parts are coming through a little better, such as valves and gears. Delays on timing gears, however, still hold up units. One job was held up waiting for a camshaft gear. Finally, we had to put in a second-hand unit. We hated to do it for obvious reasons, but somehow we've got to keep these trucks going, if there is any possible way to do so.

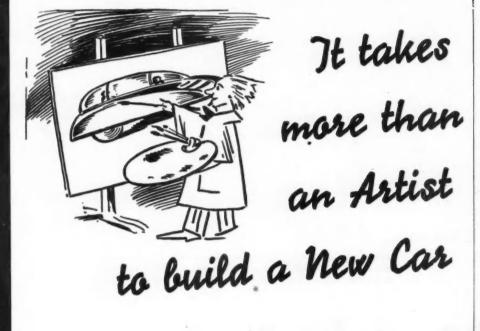
We have relied mostly upon our own efforts to get replacement parts from our regular sources of supply. We have contacted the ODT but without results. The ODT officials are willing to help us in every emergency. But they are unable, apparently, to give us any real relief. On two occasions we applied to them for fast action on some urgent parts, but without obtaining what we wanted. Perhaps it is our own fault for not submitting our needs to them oftener. Continued frustrations in point of getting parts when needed have been so discouraging, that we did not follow up with our nearest ODT headquarters at Lansing.

For example, we had an engine rebored, ready to install, but waiting for a crankshaft. Finally, we received one, but it was the wrong size and type, so we were as bad off as before. This tractor has been idle for 11 weeks. Now we are using an old shaft, having it turned down and will install undersized bearings. Obviously, this is a makeshift program at best, but we are in hopes that it will keep the truck in operation until some relief comes.

For obvious reasons, tire recapping will have to play a greater part than ever before in fleet maintenance, to cut down waste and to bridge the gap until manpower and additional machinery will enable manufacturers to catch up, and give us more and better tires again.

We built up a high mileage record on pre-war tires which averaged 50,000 miles per original tread, by observing all rules on tire care, with special emphasis on using over-sizes and close adherence to proper loading. In fact, we increased our tire capacity by changing from 9:00s to 10:00x20s. We attribute both the longer mileage on originals and the

(TURN TO PAGE 98, PLEASE)



Design gives the new models a start in life but engineering, tooling and the thousand and one production operations must finish the job. Of the many component parts of an automobile, RBC BEARINGS were standard equipment for many makes in the past—and will be again when the revolutionary new

models are brought to light. But for the present and for some time to come, bearings need care to provide every extra car mile for today's vital war transportation needs.



ROLLER BEARINGS

ROLLER BEARING CO. of AMERICA TRENTON NEW JERSEY



IMPORTANT FOR FLEETS TOO!

★Quickly cleans out harmful sludge deposits from vital areas.

f

n

g

e-

ze.

as

or

ld

ill

ri-

at

ill

ne

rt

he al ers

rd 0,obith zes adire to the

AL.

Retards the formation of engine varnish.

*Frees sticking valves and rings.

★Gives easier starting — in any weather.

*Helps oil flow smoothly and constantly to close tolerance parts.

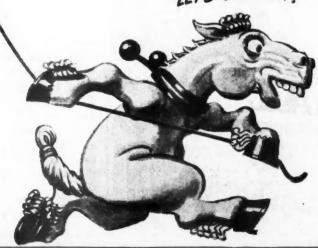
It takes *clean* motors to do the Nation's big transportation job.

That's why so many fleet maintenance men, responsible for the continuous operation of every unit, insist on Casite in every crankcase—all the time.

They know from experience what Casite does. They know that it means lower operating costs, greater engine efficiency, longer engine life—smoother and better performance—with lubrication stepped up and engine wear reduced because of Casite's oil-carrying ability.

Don't let these enemies of power sabotage your fleet. Send it into action with clean motors. Start using Casite today.

LET'S GET GOIN!





CASITI CORPORATION . HASTINGS, MICHIGAN

WAR HAULS WAIT

(CONTINUED FROM PAGE 96)

good performance of recaps to this over-sizing program.

We get from 75 to 90 per cent of safe mileage on recaps as from original treads. Our recapped jobs were as free from road failures as originals on pre-war casings.

We are now aiming to increase the percentage of casings suitable for

second and third recaps. We watch especially for carcasses, which have worn out prematurely from running out of alignment or some other reason caused by the shop labor shortage. We get best results (longer mileage and lower tire costs) by mounting our recaps on our tandem trailers, mostly. In this way, we can use recaps all year around without premature road failures.

Taking some recap jobs at random, one pre-war tire recapped on June 1, 1942, was taken out of service June 15, 1943. Another, June 5, 1942, taken off June 10, 1943. Another went 11 months; another, 13 months; another, 6 months. All, excepting the last one, averaged 60,000 miles. Our units run approximately 5000 miles per month. Only one recap was less, namely, 30,000 miles. Each tire, new or recapped, is checked in when mounted and checked out when finally discarded or turned in for another recap, as the case may be.

We have not entered into the synthetics as yet. The war tires we have had to use during the past year do not compare with pre-war tires. We get an average of only 60 per cent of mileage obtained on pre-war tires. This applies both to tread wear and carcass failures. Obviously, the percentage of recap failures, due to lower grade carcasses, increases in like proportion. Wartime camel-back for recaps, while below pre-war mileage possibilities, is doing a fair job and given sound carcasses which will hold up comparably with pre-war casings, we confidently believe that our recaps will continue to be economical factors.

It seems certain that the rubber industry will be unable to provide pre-war quality of tread stock for truck tires for some time to come. That condition is clearly understandable. On the contrary, it seems that a lamentable and costly mistake is being made to consume manpower in tire factories to produce inferior carcasses, since the waste of both rubber and man-power is involved. This waste is necessarily carried on to the fleet operators, in the form of more frequent road failures and a wasteful reduction in the number of casings that can be recapped, which the government rightfully wants us to do.

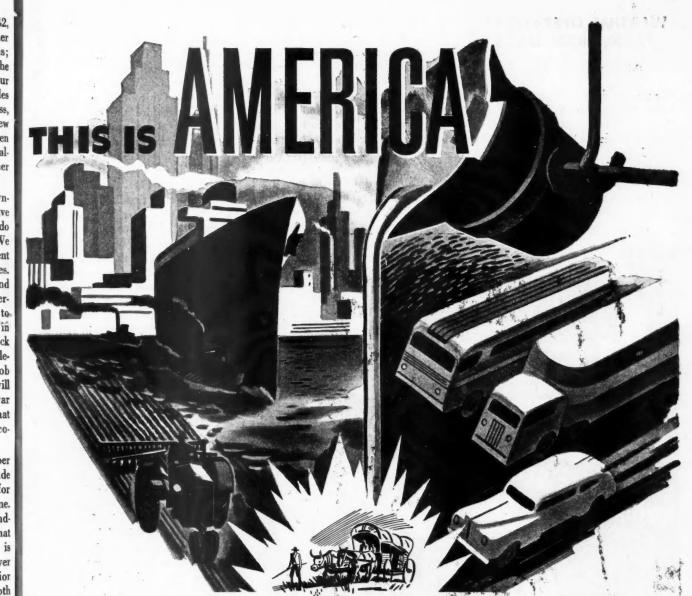
We clean all rims, when changing tires, to remove rust. We chip the hard rust off first, then clean them with a rotary wire brush, and paint them. This not only saves tires and tubes, but saves labor mounting tires. If neglected, rust finally eats through the rims and eventually the whole channel blows off. Even though we are short of help, we find this precautionary plan saves many times the amount of labor required to do the job.

END

(Please resume your reading on P. 42)



BR



Land of inventive genius and productive skill and business enterprise. This is America! * As one of America's basic industries, Raybestos has kept pace with American progress . . . achieving leadership in the production of advanced brake linings and clutch facings for the four great fields — Automotive, Heavy Duty, Industrial and Aircraft. * Today, out of this leadership and the rigorous proving ground of war production, are coming for you — and will continue to come — Raybestos friction materials exemplifying that progressiveness which says, "This is Americal This is Raybestos"!

THE RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.



BRAKE LINING



BEAT 'EM WITH BONDS

BRAKE LINING, CLOTCH FACINGS, FAN BELTS, HOSE FOR CARS, TRUCKS, BUSES, TRACTORS ON THE WAR AND CIVILIAN FRONTS

ed. on

of

of

ich us

ng

the

em int

nd

es.

ole we renes do

12)

NAL

WARTIME OPERATIONS 47,900,000,000 MILES

(CONTINUED FROM PAGE 51)

The greater density of traffic and the improvement of load ratios have in many cases been insufficient to overcome the tide of mounting expense caused by constantly increasing wages and deterioration in the supply and quality of labor, the rise in various prices, and the highly adverse operating conditions resulting from

aging and often decrepit vehicles.

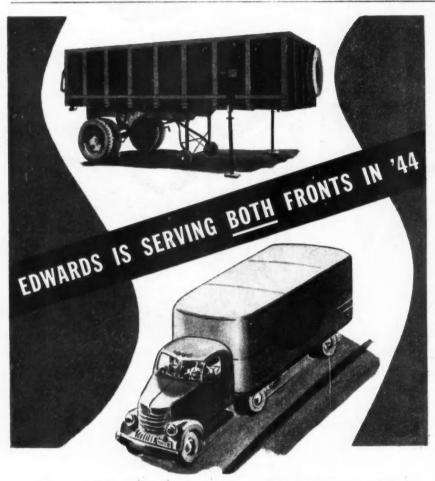
It is difficult to overstate the precarious situation of motor truck transportation because of these conditions which I have described. It is a marvel to me that the operators have been able to carry on and do their vital part in the war effort so effectively thus far, and there is little prospect of any quick and large relief. Consider these facts for a moment. In 1941, about 700,000 motor truck power units were sold for civilian use, of which the greater part were replacements. That figure it is trie. was somewhat higher than normal. However, in 1942 and 1943 com. bined, the total sale was only about 100,000 units. We have been working hard on this situation and we expect that before the end of 1944, about 88,000 new units, and perhaps more, will be produced for civilian use. All this in the face of a much greater demand for motor truck service than in 1941. The conditions with respect to tires and repair parts. as you know, have been much the same. It is obvious that the motortruck industry has been living in the past two years on its fat and is now down to a state of semi-starvation, with all that goes with that state.

It may be some consolation to know that for these grave deficiencies in the supply of new civilian trucks and heavy-duty tires the military demand is responsible. The great bulk of the product this year will go into military rather than civilian use.

No one of us wants to see our armies deprived of a thing which will help to bring victory at the earliest possible date. At the same time adequate truck transportation here at home is indispensable to the war effort, and it cannot be starved too long. There is a question of balance between the needs of our armed forces and the needs of the home production by which, in the last analysis. the armed forces are sustained. It requires great wisdom to strike the right balance. I know that those who have had that duty have realized the difficulty and gravity of the task. and have not made their decisions without full consideration of all the pertinent factors, including many, no doubt, which are not known to you

The only possible answer to these highly adverse truck conditions is the utmost conservation in use, operation and service. With that help the operators may be able to carry on, without serious breakdown, until the day of relief arrives. To me, the most hopeful thing of all is the extraordinary ingenuity, persistence, and resourcefulness which the operators have exhibited in the past two years. I can not help feeling that they still have a stock of this indomitable spirit in reserve, and as the Bible indicates, faith can move a mountain.

From the beginning I have, I be-(TURN TO PAGE 102, PLEASE)



■ A limited number of new Edwards Trailers are available for civilian use to operators who can qualify under General Conservation Order M-100. If you need a new trailer, investigate Edwards ability to meet your requirements today.

Meanwhile, Edwards continues to build trailers for military use on the world battlefields, and is continuing to produce other material for war.

EDWARDS IRON WORKS, INC., SOUTH BEND, IND.

EDWARDS TRAILERS

YOUR BEST INVESTMENT IS STILL WAR BONDS



USE THE TOOL RIGHT. PUT IT BACK!

Hand Tools are weapons of war...they're in the fight, keeping America's aircraft and mechanized might tuned up and ready for action. Maybe that new wrench you would like to have in the shop tomorrow is doing a vital job in the South Pacific today!

Until all our good Tools come home with the fighting men who depend on them, there's a war to be won and a job to be done right here. Making your present Tools go farther and do more is one little way you can help a lot. The New Britain Machine Co., New Britain, Conn.



DONT

ON NUT!

DON'I

d

ed

k.

ns

he

10 ou

he

on

p-

thav ost direors ITS. till ble in-

be-

NAL

DON'T RUIN VALUABLE

TOOLS USING THEM AS

PRY BARS



THE NEW BRITAIN MACHINE CO.

WARTIME OPERATIONS 47,900,000,000 MILES

(CONTINUED FROM PAGE 100)

lieve, foreseen the danger that lay ahead for motor transportation, and one of my greatest worries has been that the Office of Defense Transportation might not be doing enough to promote the cause of conservation. We ran into a thunder-storm when we adopted the Certificate of War Necessity plan, and that plan had its

rough edges beyond any question. Nevertheless, those Certificates have proved invaluable. We now have a far greater knowledge of the operators and the operations than any one has ever had before, and we have the basic data to guide us to our conservation work.

You may be interested in knowing that on Oct. 1 of last year a summarization of these Certificates showed that there were about 4,635,000 trucks and truck tractors in the country in the hands of about 3,267,-

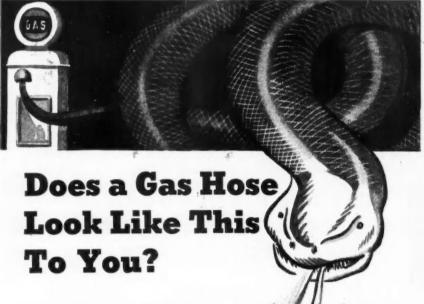
000 certificate holders, and that we had certified to these trucks about 47.9 billion miles per year. These figures include some converted passenger cars used for property-carrying purposes. Of these vehicles about 4,011,000 were private trucks, or, more strictly speaking, trucks which are not operated for hire, with about 2,903,000 certificate holders. There were 624,000 for-hire trucks, with 364,000 certificate holders. Of the private trucks, 1,588,000 with 1,527,-000 certificate holders, were farm trucks, leaving 2,423,000 used for other purposes, with 1,376,000 certificate holders.

The for-hire trucks were in number only 13.46 per cent of the total, but they accounted for 26.08 per cent of the mileage. The farm trucks were in number 34.26 per cent of the total, and accounted for 25.91 per cent of the mileage. You will note that while there were about two and one half times as many farm trucks as for-hire trucks, the latter were responsible for more mileage. The other private trucks were in number 52.28 per cent of the total, and accounted for 48.01 per cent of the mileage. Of particular interest to the group which I am addressing may be the fact that about 345,000 trucks and tractors were certified to about 140,000 holders engaged in wholesale distribution, and that about 685,000 vehicles were certified to about 441,000 holders engaged in retail distribution. These figures are exclusive of tank trucks. The average miles certified were about 12,000 per year for the wholesale distribution trucks, and 8500 per year for the retail trucks.

The vast importance of truck transportation to the nation is perfectly clear from the figures which I have given you, and it is equally clear that private trucks are responsible for a very large part of that importance. The economy of the country is now definitely geared to truck transportation and would collapse without its aid. Every day the realization of this fact grows upon me.

Now I come to the matter of conservation. We can only approximate the 1941 mileage, so that it is impossible to compute the saving accurately. Making the best possible estimates from surveys of the Public Roads Administration and incomplete reports on 1941 mileage given in the

(TURN TO PAGE 105, PLEASE)



Do you have dark circles under your eyes from checking up your coupon allowance of ges against actual consumption? Do you start violently when per mile cost sheets are laid on your desk each week?

Here's how you can sit back and relax: Get Marvel-Schebler Carbureter replacements on your truck and passenger car fleets.

Now it's your turn to ask us a few questions. Write or wire us direct for data regarding models, prices, etc., or contact any one of our authorized Marvel-Schebler Distributor-Dealer organizations in your vicinity.

MARVEL-SCHEBLER CARBURETER DIV. BORG-WARNER CORP. FLINT 2, MICHIGAN

MARVEL-SCHEBLER arbureter



They're Doing a Bigger Job-Better With Round-the-Clock Dependability!



ts

is

nte

ic te

AL

Motor Freight Carriers have become the swift conveyor belts of war production. They speed raw and finished materials from door to door and door to dock; they dovetail deliveries with production schedules—do it quicker, more directly, with less handling, better scheduling, greater flexibility—at lower cost!

Motor Freight Carriers such as the Federal trailer unit pictured above, today are serving 43% of all the communities in the United States without other means of transportation. They're delivering the goods everywhere—doing it consistently—on a 168 hour work week. When it comes to shipments—"Toss the freight jobs to motor carrier—the tough truck jobs to Federal."

FEDERAL MOTOR TRUCK COMPANY
Detroit 9, Michigan

FEDERAL TRUCKS

Since 1910...Known in Every Country—Sold on Every Continent

What's a "detergent" got to do with keeping engines fit?



 A detergent is a chemical that cleans things, loosens dirt. Laundries have used soapless detergents for years.

Until recently no one ever dreamed of using detergents in motor oils to keep engines clean inside. But that's being done today-and what a difference it makes!

Prove it yourself. Use Quaker State HD Oil-it will keep your engines running smoother, cleaner, longer. In these days of overloaded, overworked engines and short-handed service crews, it pays double to use Quaker State HD Oil. "It's the OIL that Carries the Load."

Here's Why Quaker State HD Oil Is the Ideal

Lubricant for "Peak-Load" Service 1 Made specifically for taxicabs and other motories, under severe or peak-load conditions. Severe or peak-load

2 Skillfully refined from Grade Crude Oil.

3 Has superior lubricating of ern engines that protect moderation—against heat and repairs and resulting loss of

4 Does not form decomposi-4 Does not form decomposi-tion products in high tem-tons— areas of engine pis-tons— which produce pis-residues which produce coky plugging of oil holes, power

appli

We : certif year

comp some be a more sider that in th dent tivity has a many the c mote in o easte Pr comp

savir is, I

truck

save,

the e

hut

able

of s

othe:

has !

has

mere

dow

by p

fron

ter

only

than

have

ords the tion On carr cons

hear

enti If I than have

mat

that

is st

MAR

W

loss and high oil consump-

5 Resists the formation of sticky varnish or lacquer walls and bearings, cylin-

6 Resists oxidization and the which corrode alloy bearings. Which corrode alloy bearings.

7 Has the proper detergent
broperties to prevent the
carbon, fuel such as soot,
dust and dirt, residues, road

8 Is more economical to use because it protects your friction and insures greater heriogs.

B Is more economical to use the protects of the protect of the p

Quaker State HD Oil for your trucks, buses and tractors



Quaker State Motor Oil for your passenger cars **QUAKER STATE**

AND QUAKER STATE SUPERFINE LUBRICANTS

QUAKER STATE OIL REFINING CORPORATION . OIL CITY, PA.

WARTIME OPERATIONS 47,900,000,000 MILES

(CONTINUED FROM PAGE 102)

applications for our own certificates. We are confident that the mileage certified by ODT on Oct. 1 of last vear reflected an overall saving, in comparison with mileage of 1941, of something like 20 per cent. It may be a little less and it may be a little more. This percentage must be considered in connection with the fact that there has been a large increase in the demand for truck service, incident to the tremendous productive activity of the country. The war effort has also made it necessary to institute many new truck operations, and in the case of tank trucks we have promoted their use in every possible way, in order to save tank cars for the eastern seaboard service.

Private trucks have, in general, accomplished a greater percentage of saving than the for-hire trucks. This is, I think, chiefly because the private trucks have not only been able to save, as have the for-hire trucks, by the elimination of waste in operation, but have also, with our help, been able to save by reducing the amount of service given to the public. In other words, local delivery service has been put on a wartime footing. It has been stripped of its luxuries and mere conveniences, and brought down closer to the basis of necessity.

We estimate that the overall saving by private carriers as a whole, apart from the farm trucks, has been better than 25 per cent. Considering only wholesale and retail operations, we estimate that savings of better than 30 per cent have been made. We have many cases supported by records, including definite records of the 1941 mileage, where the reduction has been 40 per cent or more. On the whole, therefore, the private carriers have done a splendid job in conservation. You certainly have my hearty congratulations, and you are entitled to the thanks of the nation. If I am authorized to extend such thanks, which may be doubtful, you have them also.

There is always a "but" in such matters. You will note that I said that "on the whole" a splendid conservation job had been done. There are still many exceptions, and there is still room for general improvement.

I believe that we have done about all that can with advantage be done through the issuance of general orders. After all, orders in such circumstances are ineffective unless what they seek to accomplish has the approval and support of a large majority of those concerned. They are chiefly useful in bringing into line a reluctant or noncooperative minority, who would otherwise make it very difficult for the majority to cooperate. The orders limiting the number of wholesale and retail deliveries were

a case in point. By and large, however, we must depend for the best conservation results upon the cooperation of those who see the need as we do and are anxious to do their part in the winning of the war.

In my judgment the best opportunity for further conservation lies in the active promotion of joint action plans, such as have been worked out with excellent results in the local delivery of coal and petroleum products, in the handling of dairy prod-

(TURN TO PAGE 106, PLEASE)



WARTIME OPERATIONS 47,900,000,000 MILES

(CONTINUED FROM PAGE 105)

ucts, and in other similar situations. There is no uniform plan which can be devised to meet all conditions, for the conditions differ in every case. Individual plans must be worked out on the ground, with the help of our field staff, but principally by the operators themselves. Fortunately, we are having plenty of the necessary coop-

eration, and every day, almost, I find myself signing several of the special orders, approving such joint action plans, which are necessary in order to clear the way so far as the anti-trust statutes are concerned.

I am afraid that I have not, in this address, penetrated very far into the future, and the outlook which I have given you with respect to the immediate future has been none too heartening. That private motor truck operation will, so far as the long-range future is concerned, continue in in-

creasing degree to be a national necessity goes without saying. It has become an integral and very important part of the process of manufacture and production, and it will prosper or fail to prosper along with industry in general. There can be no doubt, also, that we shall see many improvements in the contruction of these trucks, many of them the result of the stimulation which war always brings to the creative ability of the nation. I expect, also, to see a similar development and improvement of our highway system.

The Office of Defense Transportation is, as I have said, by way of being a war baby. It depends for its authority very largely on the war power of the President. I do not see how, in the absence of legislation, it could continue to function beyond the war emergency, and I can assure you that neither I nor my staff has any ambition in that direction. The sooner it can be dissolved, the better

we shall be pleased.

I can sum up my remarks in a word by saying that we are in a tough spot and we must work together with maximum cooperation if we are to get out of that spot with whole skins. But I am optimistic, because of what you have already done and because of the future efforts of which I know you are capable. You are helping to win the war most effectively. I thank you warmly for the cooperation you have extended to me, and I am going to call on you for more of the same.

(Please resume your reading on P. 52)

Record Livestock Tonnage

New records were established in livestock hauled by truck from farms to market in 1943. Trucks delivered 59 per cent of the tonnage of cattle, hogs and sheep reaching the markets, according to *The Corn Belt Farm Dailies*, the publications of the livestock industry.

Despite wartime handicaps, it is estimated 3,335,000 trucks hauled 9,380,000 tons of live meat animals, a gain of 130,000 tons over the previous year. It would have taken 840,000 rail cars to transport the stock that rode to market via the highways. A distance of 125 miles is estimated for the average truck haul. Some trips approximating 1000 miles are made with stock from farms and ranches to market destination.



JOHN T. STANLEY CO., Inc., 642 West 30th St., New York, N. Y.



Why Warner Electric Brakes Give You SPLIT-SECOND STOPPING POWER FOR YOUR HEAVY LOADS

USE LESS CURRENT
THAN A TAIL LIGHT!



• The Warner Electric Brake is a simple, mechanical brake, operated by an electro-magnet and armature disc. Each wheel is a complete brake unit. The power is built within the brake itself—a wire to the battery and a rheostat control are all that is needed to operate the brakes.



• The electro-magnet remains stationary within the wheel, until power is applied from the driver's seat.



• The armature disc revolves with the wheel. When the driver moves the controller lever the electric current energizes the electro-magnet causing it to cling to the revolving armature disc which shifts the magnet within a limited arc in the same direction as the wheel.

to

at

se

to nk

ng

2)

in

ms

red tle, ets.

rm ve-

als, oreken the

aul. iles

and

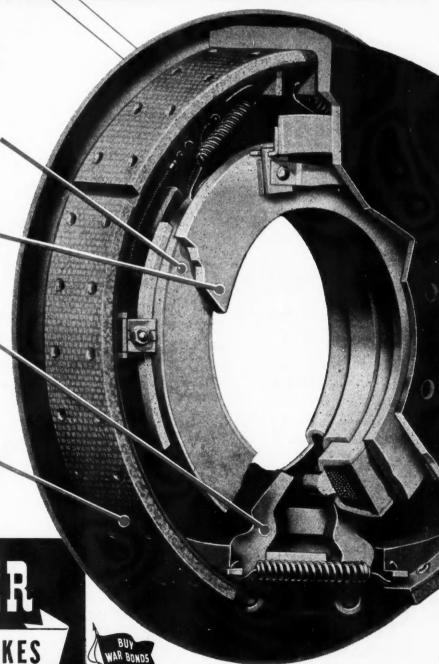
RNAI



 As the electro-magnet shifts, a lug attached to the magnet presses a cam against the brake band end, forcing the brake band against the drum thus applying the brake.



• The more current the driver allows to reach the electro-magnet the tighter it clings to the armature disc. A slight slipping action prevents grabbing. No brake adjustment is necessary. Lining can be worn down to rivet heads — at which point a safety stop eliminates scoring of drums.



WARNER

ELECTRIC BRAKES

WARNER ELECTRIC BRAKE MFG. CO.

BELOIT, WISCONSIN

REPORT ON PRIVATE CARRIER CONFERENCE

(CONTINUED FROM PAGE 50)

some relief to the overall picture." In the event the military situation should warrant a cut back on production schedules for army use, he also said, WPB's automotive division will be prepared to allot the first half of the 1945 domestic schedule for earlier production.

Asked if military trucks can be

utilized in civilian transportation, Mr. Black was of the opinion that place can be found for them. Since many types are over-powered and use excessive gas, it would, he thought, be a question of economics.

As to whether there are going to be enough parts another question from the floor—he pointed out that "the track has been cleared for increased production but it's a matter now of getting enough in the right place at the right time." Asked if manufacturers will be permitted to

T00!

resume use of their former basic alloy metals, he responded, "I think that is coming very fast."

If

in

be

int

Th

en

ati

los

3,0

an

the

W

an

po

Tire Situation Serious

"The truck tire situation is not critical but it is serious," Lucius D. Tompkins, president of General Rubber Co., now serving as deputy rubber director, told the gathering. "A portion of each manufacturer's production facilities has been definitely reserved for making truck tires for civilian use. This output will fully equip all new vehicles authorized and leave enough to keep existing trucks operating, if care is taken in using tires and in repairing and recapping them.

"In view of demands on the crude rubber stock pile practically all types of tires using crude are scheduled to be switched to synthetics. This, however, would not be done until tires now under government test have proven their ability to give satisfactory service.

"The Rubber Director's office,"
Mr. Tompkins emphasized, "will not attempt to write tire specifications or to operate the rubber plants from Washington, that being the responsibility of the manufacturers. The only limitation would be on the amount of crude rubber which can be used and that limitation would be in the interest of equality for all."

Asked regarding the effect of maximum price ceilings on tire quality, Mr. Tompkins said prices are determined by OPA. "But our job," he continued, "covers the entire rubber problem and we do not hesitate to say to OPA that we want nothing done with prices that might interfere with the rubber problem. In swinging from natural crude to synthetic there is some increase in cost. But we know of nothing in the price angle which will seriously hamper the manufacture of the synthetic tires."

"Have instructions been issued regarding the special care synthetic tires need?" he was asked. To this he responded, "I know of none. That's up to the manufacturers, who will have to look after the issuance of such instructions."

Mr. Tompkins warned against overoptimism when reports arrive that some island with 300 rubber trees or a 300-acre rubber plantation has been recaptured. Production of crude rub-

(TURN TO PAGE 110, PLEASE)

a Yankee was a Hero then . .



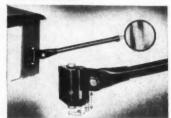
General Sam Houston had the stuff heroes are made of! Outnumbered almost ten to one, Houston began a strategic retreat—followed by the enemy who had spread their lines thinly. Waiting until the enemy got careless, Houston and his band of Texans charged the Mexicans with the cry of "Remember the Alamo!" A surprised enemy, expecting to cross a stream on a log bridge which already had been wrecked, was overwhelmed and destroyed. So Texas was saved, to later become a part of the United States.



To be heroes today, TELESCOPIC ADJUSTABLE MIRRORS too, must have unbeatable heroic qualities. They must stand the "gaff" by day and work the night shift too. They must emerge from the day's work unbeaten and unbowed. They must serve each vehicle loyally, long, and must repay your original investment many times over.

FUNDAMENTAL QUALITIES LIKE THESE DISTINGUISH YANKEE TELESCOPIC ADJUSTABLE MIRRORS AMONG ALL OTHERS!

Fundamental qualities like these make Yankee MIRRORS, Reflectors as well as Stop and Tail Lamps, Directional Signals, Marker and Identification lights, preferred on every fighting front, both here and abroad!



NO. 245 TELESCOPIC ADJUSTABLE MIRROR

Features an adjustable hinge clamp which fits hinges of any truck on the road (1-¼ inches to 2-½ inches). Telescopic feature allows up to 27-¼ inches extension. An additional bracket is furnished for body mounting.

Manufactured in accordance with regulations contained in WPB Order L-158 governing production of automotive replacement parts.

YANKEE METAL PRODUCTS CORP.
NORWALK CONN., U.S.A.

FOR Distinguished SERVICE

AUTOMOTIVE AND AVIATION MIRRORS REFLECTORS LAMPS AND SAFETY DEVICES

SAFETY DEVICES

Ask your jobber or write direct for prices and detailed descriptive literature

Ask your jobber or write direct for prices and detailed descriptive literature

MA

RISING OPERATING COSTS

If you find your costs of operation rising, be sure to check into spark plugs. The wrong type of plug will waste gas because such a plug accumulates oxide coating which causes intermittent misfiring.

Along with this loss of fuel economy goes loss of engine power.

The remedy is easy. The completeness of the AC Heat Range enables you to obtain exactly the type of plug to fit the operating conditions of your engines. That prevents any power loss due to plugs. Cleaning and regapping, consistently, every 3,000-5,000 miles, will keep those plugs in condition, check any gas waste which oxide coating might cause, and prolong their life.

With AC Spark Plugs, of the correct Heat Range, kept clean and properly gapped with AC equipment, you will stop any

power loss which plugs can cause. NA NA NA NA NA

WAR BONDS - BRING VICTORY

SEND FOR AC SHOP MANUALS

n

e n

ie er to g

n nt. ce 1e

eic is

ill of

or en b.

REPORT ON PRIVATE CARRIER CONFERENCE

(CONTINUED FROM PAGE 108)

ber only runs 150 to 200 lb. per acre, he explained.

Driver Induction Imminent

The Selective Service program for adding 900,000 men to the military forces by April and building the Army to 11,300,000 men by next June will have serious effect on pri-

vate truck operations, Lieutenant-Commander Patrick H. Winston indicated in discussing "Selective Service and the Manpower Problem." Commander Winston substituted for Major General Lewis B. Hershey, director of Selective Service, originally scheduled to address the convention's Victory Luncheon.

"The government," said Commander Winston, "recognizes that individual private trucks are a part of the nation's transportation system and will give operators all the bene-

fits of selective service. But there's no need to sell anything today and, as for your driver-salesmen, we are not deferring salesmen in any line of business.

"Is the man necessary for production of essentials?" he said. "That is the guiding rule, and private truck operation is a border line field on the fringe of transportation."

Mechanics Not "Critical"

Automotive mechanics, Commander Winston also stated, are "not on the critical list." As to what might be done, he suggested that "an effort will have to be made to use women on the small trucks and physically disqualified men where possible." With 124 million Americans still available outside the military ranks, he was confident some way could be found to carry on.

Commander Winston decried as "insidious false optimism," the conclusion drawn by unthinking individuals that, because approximately 100,000 persons are being discharged from the Army monthly, the war is drawing to a close. "These men," he explained, "are being removed because they cannot be used effectively in the armed forces and so should be returned to civilian life."

Some surprise was expressed by his hearers that 1,700,000 men have been granted deferment "by reason of being necessary to and regularly engaged in an agricultural occupation or endeavor essential to the war effort." About a million non-fathers, he stated, have been deferred in agriculture and of this number about 400,000 are under 22 years old. Recent Congressional legislation holding back induction of fathers until non-fathers have been taken, he intimated, would change this picture.

"Agricultural deferments are justified," said Commander Winston, "only upon the basis that the farmer by his own efforts is producing far and beyond what is needed for his own subsistence and that to the best of his ability he is adding substantially to the food stocks of the nation." He suggested the need for periodic review by local boards of their agricultural deferments in the light of this principle.

Joint Action Plans

ODT's program to conserve criti-(Turn to Page 112, Please)



Yes—you can bet your Grizzly Distributor knows what he's talking about when he says Grizzly Brake Lining will raise your drivers' S. Q.! It is Grizzly's builtin, smooth, certain stop that does it!

Grizzly Brake Lining is solid; a friction-retaining asbestos compound moulded on a firm wiregrid back—it cannot separate, swell or work loose. Grizzly is certain to raise your drivers' S. Q. because extra quality is built-in at every step—extra long life, extra dependability, extra safety!

Reline with Grizzly—ask your Jobber, or write Grizzly Manufacturing Company, Paulding, Ohio. Plants at Paulding and Los Angeles.

* Safety Quotient



Always...Bear in mind





American Hammered Piston Rings

THE "HELL DIVER" ... RABAUL

A KOPPERS PRODUCT

Raiding Rabaul, or shoving supplies through some mountain pass...wherever American planes, tanks, trucks, barges, etc., are advancing Allied victory, there you will find American Hammered Piston Rings at work, proving anew the dependability that guarantees to you the correct Piston Ring—in every size—of every type—for every purpose. Koppers Company, American Hammered Piston Ring Division, Baltimore, Md.

REPORT ON PRIVATE CARRIER CONFERENCE

(CONTINUED FROM PAGE 110)

cal equipment and maintain adequate essential service is going to be expanded in the field of private truck operations, E. M. Brady, chief of that agency's private carrier section, announced. He reviewed past accomplishments of private carriers in effective mileage reductions, outlined the supply situation, emphasized the need for further conservation effort and declared that this additional effort can be best made through extensive voluntary joint action activity with the cooperation of ODT.

"Joint action plans," Mr. Brady declared, "are particularly applicable to private motor carriers located in the large commercial centers, because such plans would there reach those operating the greatest number of trucks and miles in the particular industries ODT desires to reach and in areas where they are most needed.

"District and local ODT private motor carrier advisory committees will also be organized, where need exists, to handle local problems in a manner that best meets local conditions."

In connection with certain basic industries, he also revealed, joint action preservation plans will be developed as was done with solid fuels. This type of plan will be prepared for nationwide application but with sufficient flexibility to meet local conditions and needs.

"It is recognized," Mr. Brady continued, "that strict enforcement of our outstanding orders will produce additional conservation. It is also recognized that it is usually a small minority of any industry that seeks to circumvent the requirements of any regulation, notwithstanding the fact that its issuance was for the good of all concerned.

"In order to reach that small minority group we have it necessary to institute an extensive enforcement program which is under way at the present time. You will be hearing more in the future with regard to this matter."

"How can joint action plans be instituted in cases involving driversalesmen?" was asked by the Council's president, A. M. Grean, Jr.

"It's time for blunt talking," responded the ODT executive. "If we approach this problem from the standpoint of what can be done, plenty of possibilities will be found. We've got to get this down to the local level where it can be discussed directly with the men involved and we'll then find that something can be done."

Asked if joint action plans can confer rights in excess of the limitations embodied in certificates of necessity, Mr. Brady replied, "Yes, but all such cases must be treated as individual matters."

Major General Chas. P. Gross, Army chief of transportation, in a paper read in his absence by Col. Frederick C. Horner, chief of the Corps' highway division, reviewed the growth in tonnage of war department freight carried by civilian trucks and explained the Corps' set up and method of cooperating with civilian carriers.

General Gross warned against relaxation of speed limits. Twice as (TURN TO PAGE 114, PLEASE)



Front End Misalinement and Bent Axles on trucks, cars, buses—are wearing out tires, causing wrecks, making necessary costly parts replacements. All this can be prevented by the use of this Bear Heavy Duty Front End Service.

Duty Front End Service.

Provides everything you need for inspection and correction of front axles, rear housings and steering gears for heavy duty, medium and light commercial vehicles. Special axle correction assembly powered with two 30-ton hydraulic jacks for bending both ends of axle simultaneously, to any desired camber. Includes all the equipment for speedily, accurately checking wheel alinement and making necessary corrections. Soon pays back its cost in time and vital materials saved! Available on priorities. Write today for full information. Bear Mfg. Co., Dept. CCJ, Rock Island, Ill.

BEAR

Wheel Aliners and Dy-Namic Balancers • Frame and Axle Straighteners • Alinement Testers • Shimmy Detectors • Wheel Straighteners, Etc.

of Heavy Duty, Medium and Light Cemmercial Vehicles includes No. 3840 Heavy Duty Press Beam No. 835 Heavy Duty Front Axle Press No. 15 Truck Wheel Alining Gauge No. 44 Turning Radius Plates No. 21 Heavy Duty Caster-King Pin Gauge No. 51 Truck Tracking Gauge, Net weight, 2,455 lbs.

Send for free 30-page catalog containing complete data on this and other available models of Frame, Azle and Wheel Straightening Equipment. Check with us on priority requirements.

HEART
of TIRE conservation
is BEAR
WHEEL ALINEMENT
and BALANCING



ALERT TO ANY EMERGENCY

Though their numbers are relatively small, their friends are legion . . . which is just another way of saying that the nation's foremost fire departments depend upon genuine Bendix-Westinghouse Air Brakes for that quick, positive stop and smooth, effortless, balanced braking over the entire speed range * Bendix-Westinghouse congratulates those authorities of city, state, and nation who have recognized the pertinent fact that the world's most effective safety campaign begins right in City Hall and whose safety records with Bendix-Westinghouse equipped units vindicate their excellent judgment * Certainly, nowhere could brake performance be

placed to a more grueling test than in this colorful service which was among the very first to adopt Air Brakes... And no finer tribute to the success of genuine Bendix-Westinghouse Equipment than the fact that it has since been continually specified as standard by the country's leading cities and towns for fire and other emergency vehicles * We urge you to consult your local distributor or write us direct for information relative to the many exclusive advantages this Safety Standard of the World holds for you.

BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY . . . ELYRIA, OHIO

Bendin-Westinghouse

AIR BRAKES

AND PNEUMATIC CONTROL DEVICES

IT IS SIGNIFICANT THAT AMERICA'S FINEST MOTOR TRUCK FLEETS ARE EQUIPPED WITH BENDIX-WESTINGHOUSE AIR BRAKES

REPORT ON PRIVATE CARRIER CONFERENCE

(CONTINUED FROM PAGE 112)

many drivers exceeded 45 mph. in June, July and August of last year as in the last quarter of 1942, and he noted especially that they drove 10 miles above the maximum wartime 35 mph. rate. "Failure to hold the line on speed," the general declared, "threatens the future of trucking because of what heat does to tires."

America is going to town again after the war, Pyke Johnson, president of the Automotive Safety Foundation, remarked in an address on "Highways—To Victory and Post-War Prosperity." (See article elsewhere in this issue.—Ed.) While highway conditions today favor truck transportation, he predicted that when peace comes "your trucks will be caught in a traffic jam which will exceed anything before Pearl Harbor."

Dismissing the possibility that

truck operators may have difficulty in finding room on the highway in which to drive, he pointed out that "just hunting for a place to park will increase distributors' mileage and send operating costs up." This, he declared, emphasized the importance of taking advantage of the present breathing spell to get the blue prints ready now for streets and highways adequate to handle the anticipated future congestion.

Director Joseph B. Eastman of the ODT, in his luncheon address that closed the Chicago conference, released figures based on a study of Certificates of War Necessity, which for the first time provide a definite picture of the importance of motor truck transportation to the nation. (See article elsewhere in this issue.—Ed.)

Appearing early in the conference proceedings, Wm. H. Ott, Jr., general traffic manager, Kraft Cheese Co., Chicago, reported on the activities and accomplishments of the Council's War Advisory Committee, of which he is chairman, in attempting to mitigate effects of a score of ODT orders without interfering with objectives. This experience, he said, has developed a basis for procedure on whatever the future holds.

The different interests represented by the Council, Mr. Ott declared, in answering a question regarding possible conflicts between them, submerged their individual interests and wholeheartedly worked through the Committee in support of general principles approved by the Council. The overall frequency limitation order, for example, he said, was endorsed by the Council as a sound conservation measure and is so supported by the War Advisory Committee. But for individual industries this frequency order is determined by ODT in conference with the industry concerned and in the light of its application to that industry's special necessities.

Considerable controversy, it was pointed out, has been engendered by OPA's central tire inspection program. Asked to comment on the attitude of Chicago operators, O. A. Brouer, of Swift & Co., asserted that "the thinking in Chicago is that it is not entirely practical or feasible."

ODT's ban on expansion of truck operations, it was brought out in dis-(TURN TO PAGE 116, PLEASE)

The Vehicles
of Victory... are the Transports
of Tomorrow

Soldiers driving amphibian jeeps are enthusiastic in their praise. They're telling their buddies that they intend to own one of these amazing land-sea cars when the war ends. And doubtless, the amphibian jeep is but one of many

And look to the

Bendix* Drive for

fast, dependable

starts

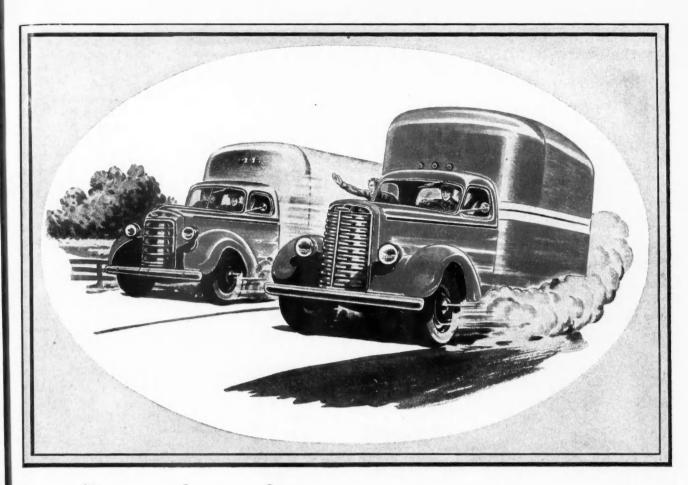
revolutionary, new vehicles that will appear on the scene after the peace. But there's one point on which you can set your mind at rest. The famous Bendix Drive, adapted to practically every type of war vehicle, will meet any demand growing out of the post-war years. Yes, regardless of engineering changes, you can look to the Bendix Drive to continue to deliver fast, dependable starts.

The Bendix Drive is an important member of "The Invisible Crew"—precision equipment which more to an 30 Bendix Plants from coast to acast are speeding to our fighting crews on world battle fronts.



TRADE MARK OF THE BENDIX AVIATION CORPORATION

ECLIPSE MACHINE DIVISION



Remember when ... -you could Tramp on it and get away with it?

Now-it's sabotage!

"Sixty-five per" tears 4 times as much rubber off those tires as thirty-five miles an hour...and tires are scarce. There's no more natural rubber for tires—and, as yet, there are no good all-synthetic truck tires! The tires now on your truck must last—no one knows how long. And your truck must keep rolling to move the stuff our boys need to win.

KEEP IT ROLLING ...

AT VICTORY SPEED!

INSIDE FACTS ABOUT RUBBER—Actually, "synthetic rubber" is not rubber at all. It is a totally different material, a "soft plastic". New Production techniques are required to process it into tires, as well as more machinery, more manhours. All tire manufacturers are pooling experimental information and methods in a combined effort to produce good all-synthetic tires in volume, just as soon as possible.

SEIBERLING

Heat · Vented TRUCK TIRES

Built by Experts in Rubber

d

d

of e-

as oy

ti-

A. at is

ck is-

(AL

REPORT ON PRIVATE CARRIER CONFERENCE

(CONTINUED FROM PAGE 114)

cussions, has been a source of concern to operators when called on for emergency hauling of raw materials, for example, milk, which are subject to spoilage and would mean the loss of badly needed supplies.

This problem, Mr. Ott announced, has been disposed of by an order made public on the day he spoke-

SEAT IRONS

LOCK HANDLES

SEAT PEDESTALS

REFRIGERATOR

LOCKS

PANEL DOOR

LOCKS

VAN BODY

LOCKS

SLIDING DOOR

LOCKS

LADDER HOLDERS

ETC.

Jan. 27-which provides that "a single movement does not constitute a new or extended operation and does not require approval by ODT."

President A. M. Grean, Jr., in his presidential address opening the conference, raised the question, "When is the ever increasing governmental control over every detail of our daily business going to stop?"

Starting in 1933, he recalled, the growth of alphabetical agencies has been given tremendous impetus by the war. While this must be accepted now as a necessary means for marshaling national resources, he expressed the fear that "familiarity may not breed contempt."

"We're being lulled into pious acceptance," he said, "and ours is fast becoming a government of men, not of laws.

Reflecting this warning, a resolution was later adopted expressing satisfaction in Director Eastman's assurance that he would work for early liquidation of ODT and declaring that the Council would "cooperate in the elimination of wartime restrictions when the emergency is over subject, however, to limited control to provide for proper readjustment of our economy."

On the subject of manpower a Council resolution called on all interested agencies "to accord the gravest consideration to the reasonable minimum needs of manpower for private motor truck operations, including distribution." Further, the Council emphatically requested that "artificial discrimination between private and for-hire motor carrier transportation be abandoned."

Endorsement was given in principle to the regulation of frequency of delivery as a conservation measure and preference was expressed for "such openly published regulations of known and uniform application to all operators in the same class, as contrasted with secret or individualized controls."

The imperative necessity of thorough and impartial tire inspections was recognized but opposition was expressed to the present central tire inspection procedure, "because of the waste of tires, facilities, manpower, time and motor fuel involved in the movement of vehicles to stations." This, the Council resolution asserted, is "the opposite to the conservation desired." Modification of procedure was recommended, along with development of "a more suitable and workable alternative."

The interregional highway report of the Public Roads Administration was approved as "sound and economical" and recommendation was made that the program be put into effect as expeditiously as possible, with funds necessary to insure its completion.

"Be it resolved," reads another clause in the resolutions committee (TURN TO PAGE 118, PLEASE)



Excessive payloads-lengthened trips-24 hour service-are placing upon a depleted supply of trucks a burden they were never intended to bear.

This trying "journey without end" is also "test-ing the mettle" of truck hardware, and Eberhard equipment is coming through with flying colors.

In dependability and smoothness of operation -in quality of metal-in durability of parts-Eberhard Hardware is proving itself capable of withstanding service manifoldly more severe than that for which it was designed.

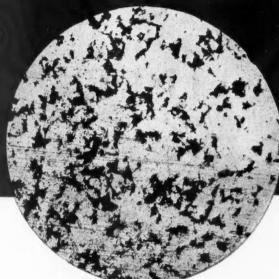
You can continue to turn with confidence to Eberhard for immediate needs and for new and improved equipment for future needs.

EBERHARD MANUFACTURING CO.

CLEVELAND, OHIO Division of the Eastern Malleable Iron Company

116

...bristling with tiny pools of oil



Photomicrograph of Ponus-Krome (100X) showing hundreds of tiny pockets in the surface.

Thorough "wetting" of the hard chromium in PORUS-KROME is brought about by the tiny pools of oil retained in the pores or pockets in the surface. The 100X photomicrograph shows these pockets in black and the pure chromium, which has been honed, is the light area.

This form of chromium, resistant to both corrosion and abrasion, and so well lubricated, makes Porus-Krome the best treatment for cylinder

walls and other bearing surfaces. Oil consumption is maintained at a constant low level because Porus-Krome wears so slowly. It multiplies cylinder life four to twenty times, and reduces scuffing, ring-feathering, and risk of piston seizure.

Let Van der Horst engineers show you how Porus-Krome can improve the reliability of the engines you are planning for peacetime sales. Write today for information.



PORUS - KROME

Multiplies Engine Life

PORUS KROME is hard chromium, applied by the Van der Horst process that produces pores to hold oil. It reduces wear, corrosion and scuffing, and greatly multiplies engine life when used on cylinder walls, or other bearing surfaces.

VAN DER HORST CORPORATION OF AMERICA CLEVELAND 11 · OHIO

CLEVELAND 11 . OHIO

d

19 0 ıs

as

re

ne

r.

ne

d,

on

re e. nd

rt

on

00-

as

le, its

er tee

NAL

REPORT ON PRIVATE CARRIER CONFERENCE

(CONTINUED FROM PAGE 116)

report, as adopted, "that a national committee representative of all types of industries be appointed to actively promote sound highway development adequately to meet the transportation needs of the nation, and to oppose all measures detrimental to such development, or detrimental to the interests of private truck owners."

Opposition was expressed to "any of the so-called integration plans and other plans looking to the curtailment or lessening of competition in transportation and any proposals to prevent industry from using its own facilities to move its own goods."

Members of the Council were also urged in a resolution to do all within their power to promote safe driving conditions among their personnel and aid in development of public opinion in support of safe driving by everyone. P. Arnold Anderson, San Francisco, was chairman of the Resolutions Committee, whose membership included Arthur C. Butler, Washington, D. C., L. F. Orr, St. Louis, and Wm. A. Quinlan, Washington, D. C.

All incumbent officers of the Council were reelected, as follows:

President, A. M. Grean, Jr., Ward Baking Co., New York, N. Y.; Eastern vice-president, G. W. Laurie, Atlantic Refining Co., Philadelphia; Central vice-president, O. A. Brouer, Swift & Co., Chicago; Western vice-president, P. Arnold Anderson, Private Truck Owners Bureau of Galifornia, San Francisco; Southeastern vice-president, E. M. Fetherston, Jr., Colonial Stores, Inc., Norfalk, Va.; Treasurer, Robert C. Hibben, Int. Assn. of Ice Cream Manufacturers, Washington, D. C. Leon F. Banigan will continue as managing director.

F. A. Slocum, R. H. Macy & Co., New York, was elected a director for a 3-year term, and G. H. Sibley, Jewel Tea Co., Barrington, Ill., and J. T. McCarthy, Jersey Broad Co., Toledo, O., were elected to fill unexpired term vacancies during 1944-

Seven directors whose 3-year terms expired were reelected, they being:

C. J. Fagg, Eastern Brewers Traffic Assn., Newark, N. J.; E. T. Hadley, The Borden Co., New York; H. V. Haley, P. Ballentine & Sons, Newark, N. J.; Col. F. C. Horner, Chief, Highway Division, Army Transportation Corps, Washington, D. C.; Leo Huff, Pure Oil Co., Chicago; G. W. Laurie, Atlantic Refining Co., Philadelphia; J. J. Riley, American Bottlers of Carbonated Beverages, Washington, D. C.

END

(Please resume your reading on P. 51)

First Denial of CWN

ODT Director Eastman denied a Certificate of War Necessity for a truck-trailer unit used by the Ransome Co., a contract carrier, to haul steel cylinders of butane in the Reno, Nev., area.

The company's application for a CWN was denied on the grounds that the new operation was in all cases over routes adequately served by common carriers and was not necessary to the war effort or to the maintenance of essential civilian economy.

TODAY

Is Your Opportunity To Buy

NEW TRAILERS

Below Ceiling Prices



ENTIRE STOCK TO BE SOLD AT ONCE!

We now have in our stock pile at Louisville less than 100 brand new dependable, light-weight Kingham-Universal Trailer Vans that must be disposed of immediately. Sizes range from 20 ft. to 28 ft. long. All have new Pre-War Tires! If you need additional trailer equipment for essential war hauling don't fail to get our unusually low price on these units. Remember, this lot of brand new trailers MUST be sold at once . . . Below ceiling prices.

Take advantage of this unusual offer before these trailers are sold—Immediate Delivery

Act today—Write, Phone or Wire
A Certificate of Transfer (PD-321) is necessary

"A load behind is a trip ahead"

KINGHAM TRAILER COMPANY

LOUISVILLE

INCORPORATED

KENTUCKY



Cool, clean and fast even under the terrific friction heat of punishing work. No sanding job too tough. Flexible for concave, convex and reverse curve sanding.



Specially processed for continuous cutting action and long life. Most economical to use and helps stretch manpower.

ASK YOUR JOBBER'S SALESMAN

SIOUX
PHENOL ABRASIVE

STANDARD THE



WORLD OVER

SIOUX CITY, IOWA, U.S. A.

(CONTINUED FROM PAGE 46)

Out comes the engineer's notebook and a memorandum is made for the report which will be sent tonight to the head office of each carrier involved. Lacking the driver's name, the report will identify him only by the number placed on his truck for the engineer's use in cases just like this. And, in time, that driver will learn from his boss back home that on the specified day, at the particular hour and in this precise spot, he was risking his company's equipment and its load by driving in a very hazardous manner.

Possessing authority to act in emergencies, the engineer can issue corrective orders but cannot levy penalties. What is finally done about it is left solely to the driver's employer. Maybe the man needs only a warning. Maybe, if it's a serious matter or a repetition of a previously re-

ported bad driving practice, he is suspended for a run or two. But at any rate, he will learn something.

Let's jump now to central Wisconsin's famous Baraboo Hill, with its tricky climb of a mile and a quarter over rugged remnants of ancient mountains. So treacherous is it that trucks must take it in creeper gear, and for years it has been a nightmare on the Chicago-Twin Cities run.

Set to check on the drivers here, the engineer finds nothing wrong with their operations over the hill and his report so states. But as he watched he saw, at times, up to 22 trucks crowded into that mile and a quarter of roadway. In such close traffic, at such a dangerous spot, disastrous accidents are always imminent.

Accordingly, a recommendation was made that the companies take action to stop the group, or convoy, travelling of units, thereby reducing the hazard to a considerable degree. Pressure was brought to bear on drivers until they learned to spread out, and today the engineers seldom see more than one or two units on the hill at one time. Schedules have not been changed and yet, although travelling slower and safer, the units still get in on time.

Driver Practices

Innumerable other problems constantly confront the engineers as they wend their way, hither and yon, over their three-state district. Hitch hiking by civilians and especially by men of the military forces, is one; the driver who pulls up for a nap is another; the man on the night run who parks his broken down truck without flares while he tramps off for aid is a third. Then there's the man who forgets business for a "pretty face, a pleasing smile"; and the man who dallys in taverns and restaurants and accounts for time lost by claiming he had to stop for repairs.

Drinking, the engineers stoutly maintain, is not common among truck drivers. All are fully aware of ICC rules and penalties; their companies forbid it, and they know that they cannot drink and drive too. But, human nature being what it is, it sometimes happens, nevertheless. Since the safety control plan of the Illinois-Minnesota Conference has been in operation, however, some of those drivers who took a chance no

(TURN TO PAGE 125, PLEASE)



LOW INITIAL COST
LOW COST OPERATION
NEGLIGIBLE UPKEEP
NO "MAGNETIC BLOW"
FAST, FLAWLESS WELDS
EASY OPERATION

COMPLETELY EQUIPPED

. . . because they have "what it takes" to deliver the speed, economy and performance that is the solution of every welding problem.

In these days of critical repair parts shortage here is the cue for the solution of many of the difficult problems of wartime automotive maintenance.

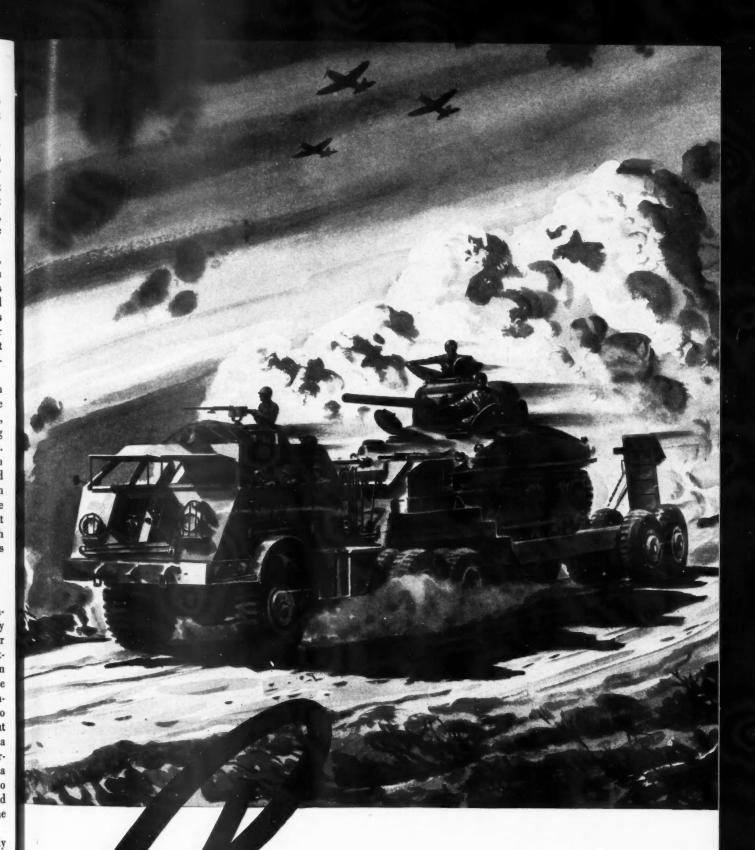
Electric welding makes cracked engine blocks and cylinder heads, damaged chassis and body members and a multitude of other parts as good as new without the cost or loss of time needed for dismantling and replacement.

Send for free, 24 page, illustrated booklet.

MARQUETTE MFG. CO., INC. Minneapolis 14, Minn.

a.c. arc welders

120



OSS STEERING
Helmo P

Helps Rescue Tanks!





GIANT

and JEEP

• Almost lost against the ponderous bulk of the M-25 retriever and the tank it's bringing in, is an Army jeep—weighing about 1 ton as against the massive M-25's 80 tons. Ross Cam and Lever Steering is used on this jeep, just as it is on the M-25—which is said to be the heaviest of all motor vehicles operating on rubber tires. Large or small—Ross is ready to steer them all and do a top-flight job. Ross has what it takes.

When Allied tanks get into trouble on any war front, the mighty M-25 tank retriever goes and gets them and brings them back to be repaired—to live and fight again.

Fully loaded, M-25 weighs 80 tons. Here's a steering job beyond the strength of any one man. Ross and Bendix engineers developed the Ross-Bendix Hydraulic Powered Steering Gear unit which solves this difficult steering problem.

STEERS BOTH!

Photograph supplied by Pacific Car & Foundry Co.

Another Step Forward in Design for Steering

★ In co-operation with Bendix engineers, Ross is now supplying Uncle Sam's tank retrievers with the Ross-Bendix Hydraulic Powered Steering Gear.

The Ross-Bendix Hydraulic Powered Steering Gear incorporates the standard Ross Cam and Lever Gear design—with the hydraulic cylinder and valve mechanism supplied by Bendix. Operating together, as a unit, they do a new and vital war job. Here again is definite evidence of the alertness and progressive thinking of American industry in an emergency. It marks likewise another forward step in the many years of progress in the development of the steering art.

For 37 years Ross has anticipated and met the changing and increasing needs of automotive operation with constantly improved steering gear designs — designs which still endure as fundamental developments in the progress of an industry.

First came the basic cam-and-lever design, absolutely new in principle. This, the Ross plain-stud single-lever cam-and-lever steering gear, brought unheard-of steering ease and control—and answered the steering problem imposed by the then new balloon tires. The first production cars using balloon tires were equipped with Ross Cam and Lever Steering.

Ross engineers next designed the roller-mounted camand-lever gear bringing a great increase in steering efficiency, and more than 50% in steering ease. This improvement was followed by the Ross Twin-Lever Cam and Lever Gear—providing steering ease never before obtained in combination with complete stability in high-speed driving. lon

day cor tor

WIG

cor

bre

inte

dri

stat

sho

bee

whi

bus

the

tro

and

hou

lane

pain

driv

a n

stop

whi

brie

repe

truc sper chat sum man

hom

tion

er's driv able that view pany O a tr travicul until alley street

sam

MAR

The roller-mounted twin-lever type was the next development of Ross engineers — another substantial advance in steering ease and stability — of particular advantage to heavy-duty trucks and buses.

And, Ross has kept step with the tractor industry—supplying long-sought steering improvements with the Ross Wide-Angle Cam and Lever Steering Gear.

Nearly every type of automotive vehicle has found in Ross the good steering that was needed—from boats to buses—trucks to tractors—and passenger cars. It is a significant fact that a large majority of all heavy-duty trucks and coaches today are equipped with Ross Cam and Lever Steering.

Maximum steering ease and stability, in just the right combination—parking ease—minimum wear—simplicity and ease in any needed adjustment—sturdy, rugged construction—all these are distinguishing characteristics of Ross Cam and Lever Steering.

We invite discussion of any steering problem and pledge our best effort and service, as the conditions and circumstances of today will permit.

ROSS GEAR AND TOOL COMPANY, LAFAYETTE, INDIANA





(CONTINUED FROM PAGE 120)

longer drive trucks for the 15 sponsors of the plan.

Getting down to cases, it's a Saturday evening in central Wisconsin and, coming along is a fully loaded tractor-trailer, closely followed by a wrecker towing a truck of the same company which had happened to break down. Trailing the two units into town, the engineer saw the drivers stop before a tavern and enter. He followed. One driver, states the official report, had three shots of whisky and two bottles of beer. The other stopped at three whiskies and then both went back to business.

A block and a half from the tavern the tractor-trailer developed fuel line trouble and, along with the wrecker and its disabled tow, halted for an hour and twenty minutes on a two-lane, heavily traveled road. When repairs were completed, the wrecker's driver pulled aside and curled up for a nap, while the engineer, following the tractor-trailer, soon saw its driver stop at the next tavern for three more whiskys and three beers. To make it brief, on receipt of the engineer's report, both drivers were discharged by this company.

Again, there was the driver who, on reaching a small town, parked his truck four block off the highway and spent an hour and a half in a tavern. chatting and drinking beer. On resuming his place at the wheel, the man was dismissed on the spot and placed on a bus, with his fare to the home terminal paid by the engineer; this action being taken on instructions given by telephone by the driver's employer, who also sent a relief driver for the unit. With considerable satisfaction the engineer reports that when this case came up for review by the driver's union the company was upheld 100 per cent.

On another occasion, in following a truck, except that the driver was traveling up to 50 mph., no fault could be found with his operations until he reached town. Parking in an alley behind a restaurant off the main street, he entered and remained for two hours. Three other units of the same company came along and their drivers also stopped to eat. All four

left together and proceeded in convoy, violating thereby their own company's rule against this.

After waiting two minutes the engineer followed. Twenty minutes later he caught up with the quartet 17 miles up the road, which even though each truck was heavily loaded, they had traveled at a speed of 51 mph.

And what do you think they were doing?

Well, sir, they were playing "leap frog!" First one truck would dart out of line and speed up to get ahead of the one next in front of him at the moment. The latter wouldn't take it so, seizing his chance, he, too, turned out, stepped on it and quickly vanquished the first victor. No. 3 in line next decided to give them both his dust and finally No. 4 felt the urge to lead the procession. Thus, on and on this merry-go-round went for miles. A hilarious spectacle it was, to say the least, but one to make a truck driver's guardian angel weep. In trucking history it is probably an

(TURN TO PAGE 126, PLEASE)

Action when you need it with MILEY Better Brake Materials

MILEY'S faster service is growing more important every day! No longer can trucks, cars and busses lie idle waiting for repair parts... and that's why the special emphasis Miley places on faster delivery is appreciated more than ever today!

Fleet owners and operators on whose shoulders rest the transportation and shipping problems of this war have come to depend on MILEY for brake materials, unlined brake shoes, lined shoes, clutch facings and brake cylinders because today, fleets must be kept rollinal

Ask for Miley "BLACK GOLD" and Miley "EBONITE". S:andards for better lining as well as faster service!



(CONTINUED FROM PAGE 125)

extreme instance of bad driving and among the 15 Illinois-Minnesota Conference carriers it will never happen again. Reprimands and lavoffs wrought the cure.

The "No Rider" rule forbidding passengers on trucks is a problem requiring frequent attention. The Interstate Commerce Commission, the

insurance companies and truck operators themselves all forbid it and, for military men trucks are always out of bounds for such passenger service. So when a truck with a rider shows up the safety engineer is empowered to halt the vehicle, ascertain if the rider is an employee or has proper authorization for the trip and, if not, may remove him immediately from the truck.

Sometimes the rider is permitted to continue on the truck into the next town or, if still near the one last passed, he has to walk back. Other. wise, the engineer conveys him to a point where he can obtain public transportation. If the rider happens to be a member of the driver's family and lacks travel funds, the engineer advances the sum and sends the bill to the driver's company. Near military installations hitch hiking is especially prevalent, say the engineers. but even though it may seem unpatriotic, duty is duty and no exceptions are made. All this is convincing most drivers that the "No Rider" rule means what it says.

The habit some drivers have of taking a nap en route from terminal to terminal seems to "run in companies" it has been discovered. Among some companies, one engineer reports, he has yet to find a driver sleeping on duty while in other companies it is a common practice.

try to get their 40 winks in the same spot each time. It may be on a roadside shoulder out of the traffic lane on near to a closed filling station, but there they are, every time, snoozing away with motor idling and cab windows shut tight. If it is a cold night, their slumbers are sure to be interrupted by the engineer who advises them to leave a window open, or better still, be on their way.

One recorded instance concerns a driver who was thus awakened in a secluded spot and who, just 40 min. later and 23 miles up the road, was again found desperately trying to catch up on his sleep.

Oddly enough, also, drivers always



What makes truck drivers sleep on their job? For that question the engineers have several answers. Part time jobs, handled by drivers in their hours off when they ought to be sleeping is, they say, one common wartime reason. Emergencies and the manpower shortage also play their part now. Then, too, there are late parties, and occasionally it's a case of sitting up with a sick relative. All explanations offered go down in the record, and when fully analyzed may throw important new light on one phase of accident prevention in truck operations. For, as experts have maintained, the driver who gets his proper rest does not have accidents due to sleepiness.

the

mai

fro

tha

tre

MA

No unvarying daily routine is pos-(TURN TO PAGE 128, PLEASE)



Unexcelled since 1881

HERBRAND TOOLS

Are Working for Victory!

Men and women who make and maintain our fighting equipment are making good use of Herbrand Tools to speed up Victory.

Like thousands and thousands of automotive mechanics, these people know the value of the advanced design, uniformly high quality and superior workmanship built into these tools-and are making the most with what they have at hand.

Should there be an occasion when you are unable to get immediate delivery on certain numbers in our complete line-please understand that war needs come first. Herbrand Quality Tools are worth waiting for.

Sold through better jobbers everywhere

THE HERBRAND CORPORATION · Fremont, Ohio **Drop-Forged Tools Since 1881**



Hauling America's Most Critical Jobs... Spicer Transmissions, Auxiliaries and Universal Joints

Hauling massive logs from mountainside forests, and moving great hull sections in busy shipyards... these are a few of the jobs which Spicer-equipped trucks are doing to meet America's urgent wartime material and construction needs. Wherever men, materials and munitions must be moved...on the battle front and home front... Spicer Transmissions, Auxiliaries, Universal Joints and Axles deliver power that will help us reach the goal of peace. Then Spicer again will be ready to serve immediately the tremendous needs of America's automotive industry. Spicer Manufacturing Corporation, Toledo, Ohio.



BROWN-LIPE CLUTCHES AND TRANSMISSIONS . SALISBURY FRONT AND REAR AXLES

PICER UNIVERSAL JOINTS . PARISH FRAMES, STAMPINGS

as

n-

art eir

on

eir ate

All

ay

ick

his nts

105

NAL

(CONTINUED FROM PAGE 126)

sible for the engineer or expected from him. Today he may start out from his home city in mid-center of his district, tomorrow from Chicago, Milwaukee, Winona, St. Paul or Duluth. Starting time may be 4 p. m., 10 p. m., or 8 a. m., depending on his whereabouts at the time, the particular fleet he has selected to observe

and the route it traverses. Sometimes he may follow the first truck that comes along, maybe for only 15 miles or again for a hundred. And sometimes he waits for a certain truck to give it special attention as requested by the operator.

Word of such particular assignments often seems, somehow, to travel across a whole state ahead of the engineer and, from the report he is forced by the subsequent evidence to make, that driver turns out, for a night at least, to be a perfect para-

gon. It leads to the assumption that there may be—well, call 'em "Good Samaritans" in some terminal offices.

From the foregoing it would be incorrect to infer that the patrol work is solely concerned with checking bad driving practices. For the maintenance departments the engineers note wobbly wheels, defective lights and other mechanical faults.

Each engineer carries a set of tools useful for minor repairs, in case he comes upon a Conference truck out of commission. He carries, also, tow chains, five pot torches, a red lantern, 20 fusees, 2 gal. gas, 2 gal. kerosene, several plastic reflectors and a first aid kit; for all of which use is constantly found. In case of trouble, mechanical or otherwise, the engineer remains on the scene, attempting to get the unit rolling again.

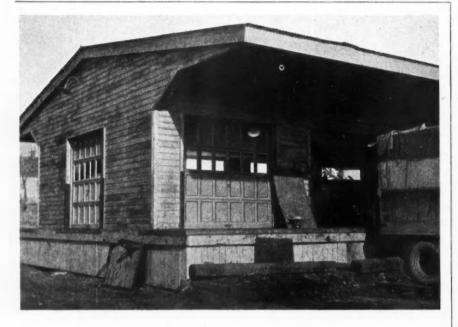
Road Maintenance

There's the truck, for example, encountered at 2 a. m. with its transmission stuck so the driver could not shift gears. He had no tools and did not know what to do anyway. Complicating the situation was the fact that the load of important war freight was due at its destination at a specified time. When the engineer arrived, it looked as if there would be a delay of six or seven hours until service garages opened up in the morning. Happily, however, another truck of the same company came along and, with the engineer's tools, the two drivers pried the gears apart and got the truck moving with just 30 minutes of lost time.

In another instance the engineer stopped a truck to borrow a tire for another unit of the same company and discovered that the second truck had a broken fuel line. The tire trouble was adjusted, then the engineer took the broken fuel line to the nearest garage, 20 miles away, had it repaired and returned to the waiting truck; again, with great saving in time over what might otherwise have been lost.

Quite often the torches and flares come in handy when breakdowns occur and drivers are short of kerosene or even the flares themselves. Sometimes, despite the risk, the stalled truck will be found unprotected at the roadside, while the driver is hoofing it into town for help. In such cases the engineer sets

(TURN TO PAGE 130, PLEASE)



... for Heavy Constant use... The Barcol OVERDOOR

A motor freight terminal, such as illustrated above, has to have doors that will stand a lot of use, and abuse. They've got to operate easily, close tightly to keep out dirt and drafts, close securely to protect the merchandise, be out of the way when open, and not get stuck or get out of order. The Barcol OVER-door meets all these requirements, as proved by years of satisfactory service with low maintenance costs in thousands of commercial and industrial installations. Features include roller-crank closing action, tailored twin torsion counterbalancing springs, and durable construction with high quality wood sections and extra heavy hardware. For maximum service where it is needed most, use the Barcol OVERdoor.



FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARBER-COLMAN COMPANY

SHINE-UP TIME





TODAY, MORE THAN EVER, YOUR FLEET NEEDS NO. 7 POLISHES

Your trucks must have the best of care in these days when replacements are practically impossible. That goes for the *finish* on your fleet, too! Keep trucks free of harmful "traffic film" a... prolong the life of the finish... take care of that thin film of paint that protects against rust and corrosion. Remember, too, that the *appearance* of your equipment is an important contributor to the good-will you enjoy. Make your fleet sparkle with Du Pont No. 7 Polishes.

NO. 7 POLISH—since 1925, the choice of thousands of truck and fleet owners.

SPEEDY WAX-cleans and wax-polishes at the same time.

DUCO CLEANER—for use before applying wax to the car finish.

DUCO-WAX—gives lasting lustre; seals in the beauty, keeps out the dirt.

DU PONT ACID AND RUST INHIBITOR
PREVENTS RUST FORMING IN COOLING SYSTEM
Neutralizes acid! Vital protection for your fleet

The DU PORT IN E

ie it

g n e

s. ne or ts

ON DONE

DUCO-WAX

(CONTINUED FROM PAGE 128)

up his own flares, and leaves a note directing the driver where to drop them off for later pickup. One instance is reported of a trailer with one broken wheel whose flares the engineer filled and lit for two nights.

This protective service does not stop with units of conference members. Outsiders also have breakdowns and, if lacking suitable flares, it is considered good business to lend them some. This good will gesture might save some conference truck from collision and, too, it's fine advertising for the safety work.

Distressed motorists are always aided, whenever and wherever possible. Assistance is given to get them gas or a mechanic, and many flat tires have been changed for women drivers and, in one case, for an elderly man. Many motorists do not carry a car jack and those of the engineers have

ROUN

many times been used to build much good will. In one case a motorist driving the same make car as the engineer was found with two flats. The engineer, going in the same direction, loaned him a tire for 20 miles; a kindness which worked out later like the "bread cast upon the waters," for not long afterwards it netted 85,000 lb. of freight to one carrier.

In another direction the safety control plan is helping to change the attitude of city and state police authorities toward the trucking industry generally, and the 15 sponsoring companies specifically. There's the instance of the tiny Minnesota town, crowded by high bluffs so close to the Mississippi's brink that there is room in it for only one street. Folks were getting good and sick of the continuous stream of highway vehicles speeding past their front gates day and night, and had started a campaign of arrests and interference.

So far as units belonging to conference members were concerned, the safety engineers, soon after the safety control plan was inaugurated, had this situation under control. Conferences with officials of the isolated little community gave them new conceptions of the relation the loaded trucks bore to the nation's war effort, while. at the same time, word was passed along to the drivers that trouble could be averted here by slowing their speed on the short distance through the town and also comporting themselves as if they had the interests of its every citizen at heart.

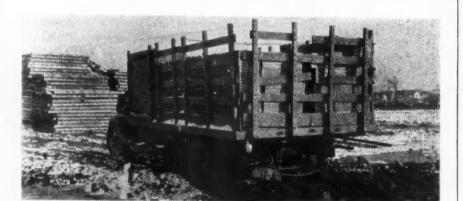
Handling Traffic Violations

One of the engineers was for nine years a member of the Wisconsin state highway traffic patrol, and, through his efforts, a procedure was worked out for handling minor law violations among conference drivers. Instead of formally arresting the offender and fining him, thereby giving him a black mark on state records, a report of the case is made to the safety engineer who in turn sends it to the company concerned.

Drivers are said not to be entirely in sympathy with this. Arrested in some small town, they are less afraid of a court record than of a company record. The former, they feel, might be concealed from their employers but, once the law violation becomes a part of the man's safety record at the

(TURN TO PAGE 132, PLEASE)

Efficient



TRUXMORE 3rd AXLE Equipt Trucks GO ANYWHERE— ANYTIME Regardless of Road or Weather Conditions: LOAD SHIFTER Device ASSURES AMPLE TRACTION

Nationwide Sales and Service
Thru TRUCKSTELL Distributors

Write for BULLETIN #34
"A TRUCK SHOULD BE
A MONEY MAKING
MACHINE"



Don't put it off 'til tomorrow . BUY MORE WAR BONDS TODAY!



"MILLIONS OF SAFE MILES EVERY YEAR WITH THERMOID"

. AERO MAYFLOWER TRANSIT COMPANY

Aero Mayflower Transit Company, a nationwide moving service, operates in all 48 States and in Canada.

Mayflower owns all its vans and other equipment; and maintains strategic shops where every fleet unit is regularly checked carefully for any mechanical fault.

Years ago, Mayflower put its stopping problem up to Thermoid . . . relying on Thermoid for quiet, positive brake performance and for outstanding maintenance economy.

Today, Mayflower reports: "We get millions of safe miles every year with Thermoid; and our experience with Thermoid Brake Linings always has been satisfactory."

Give Thermoid Brake Linings a test on your fleet. You'll find them RIGHT—the first time, and all the time!

Inermoia



The best of the second

Custom-Built Brake Lining Sets • CBB Sets • Thermo-Blocks for heaviest duty

* THERMOID COMPANY * Trenton, New Jersey *

(CONTINUED FROM PAGE 130)

home office, there's nothing he can do about it—where he would most prefer not to have the blot show up.

The Illinois-Minnesota Motor Carriers' Conference, Inc., was organized in 1934, chiefly to look after rate matters and legal problems mutually affecting the membership and to cooperate in the American Trucking

Associations' program. Officers of the conference are: President, S. Shapiro, president of Hennepin Transportation Co.; vice-president, Harold Clark, vice-president of Central Wisconsin Motor Transport, Inc.; treasurer, Al Mattson of Briggs Transer Co.; secretary, P. M. Greenberg, vice-president of Werner Transportation Co.

· Decision to institute the safety control program followed several months devoted to study of its possible advantages, and then to search for the properly qualified safety engineers. James W. Apker, Whitewater, Wis., and F. O. Wilson, Eau Claire, Wis., were the men eventually selected because of their knowledge of sa e driving principles plus a broad familiarity with traffic laws and understanding of the mechanics of motor truck maintenance.

Since some of the larger member firms had their own safety directors they did not deem it necessary to come in with the others. Two smaller firms withdrew from the plan after a short trial, leaving the following in the present list of 15 sponsors:

Advance Express Co., Milwaukee. Wis.; Britton Motor Service, Inc., Chicago; Central Wisconsin Motor Transport, Inc., Wisconsin Rapids, Wis.; Glendenning Motorways, Inc., St. Paul; Hart Motor Express, Minneapolis; Moland Bros., Duluth, Minn.; Lloyds American Lines, Lacrosse, Wis.; Hennepin Transportation Co., Minneapolis; Henneman Transfer Co., Bloomer, Wis.; Interstate Motor Freight System, Chicago; Schumacher Motor Express, Eau Claire, Wis.; Werner Transportation Co., Minneapolis; Oligney Motor Express, River Falls, Wis.; Service Transfer & Storage Co., Lacrosse, Wis.: Wheeler Transportation Co., Menasha, Wis. The last two named, are not members of the conference but, after seeing the good results, asked for the service.

Charges for the Service

One of the sponsors operates 100 over-the-road units; others operate 30 to 40 each; several have 10 or 12; one company has eight and one seven, making a total of close to 300 trucks for whose welfare the two engineers are responsible. Charges for the service are fixed at \$5 per month for each highway unit with a minimum of \$25 and a maximum of \$100.

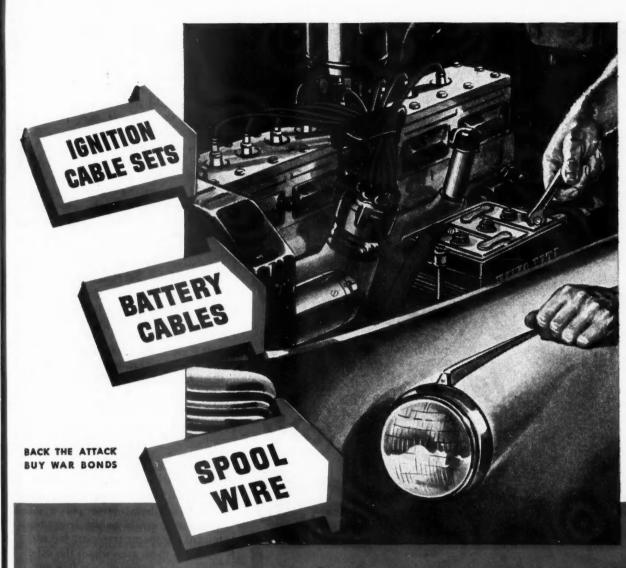
When the project was launched all drivers were informed of it by personal letters and by bulletin board notices. New operators later entering the program must notify each driver, explain the plan's purpose, tell who the engineers are and make it clear that their object is not merely to spy on drivers or to make reports only of bad practices. This soon convinces the men that the program is for their best interests; that it is intended to make them better drivers, thereby in-

(TURN TO PAGE 134, PLEASE)

Thorough Tire Inspection and Repair...so Important NOW...is EASIER to do with a



M. RC



AUTO-LITE WIRE AND CABLE

The Auto-Lite line gives you the exact type of wire and cable needed on every automotive wiring job required for your fleet. This material is built to stand up in service and is rigidly inspected for dependability... There is a complete range of battery cable, and low tension and high tension wire including Auto-Lite's famous Steelductor spark plug wires for automotive use... Find out about Auto-Lite's complete wire and cable line. Ask your supplier or write to

TOLEDO, 1 THE ELECTRIC AUTO-LITE CO.

Merchandising Division

OHIO



TUNE IN "EVERYTHING FOR THE BOYS" STARRING RONALD COLMAN-EVERY TUESDAY NIGHT-NBC NETWORK

u

n

e .,

te l; n, cs

r

m

Il r-d

er, no ar of

es

to n-

AL

(CONTINUED FROM PAGE 132)

creasing the value to their employers. as well as improving company operating efficiencies and conserving precious equipment.

Undoubtedly it is hard for a man to be laid off for one trip because one night in a heavy fog, when he was barely 50 ft. behind another truck, he pulled out to pass in a "No Passing" zone on a hill with a sharp curve at its top. Confronted, however, with the fact that his action endangered himself as well as his employer's equipment and its load, the man is learning to take his punishment and to think twice before doing that foolish thing again.

Fully aware, now, that the car following them might be that of the safety engineer, drivers are automatically giving closer attention to speed, to stop signals, to keeping in their own lane and to other details

of good driving practices. Good drivers no longer worry about the inspections, for they are learning that their commendable conduct receives full recognition in the reports, and that the good reports turned in outnumber the bad. If the driver requests it, the engineer even gives him a copy of the report.

Bad driving practices and such extreme instances as have been mentioned here are the exception, not the rule, assert the engineers. Drivers, it is now evident, like to know when they have done something not strictly proper. Quite often they thought they were doing the right thing and were unaware of its hazardous aspect. When the fault or danger is called to their attention they express genuine concern and a willingness to correct their errors.

boat

figh

_P

curi

roar

To 1

men

skill

have

thre

Pacl

orig

majo

men

tion

is u

by

fleet

way

ing

race

racii

Wha

mea

cabl

Elec

Ask

Sav

BI

FO:

MARC

It's the driver with a chip on his shoulder, the "cop hater," with whom the enginers say they have the most trouble. Education as helped some, but, lacking the proper attitude toward their work, no amount of education, say the engineers, can be expected to produce improvements. The percentage of such types in the conference is very small, but they are the men who, it is found, cause most of the accidents, force police into action and create public resentment toward the motor transport industry. And it is these men whom the safety control plan is rapidly weeding out.

Sponsors of the plan recognize that considerable educational work still needs to be done and, now that the men have become conscious of fundamental accident prevention principles, it has been decided to put future progress on a sporting basis. With assistance from the American Trucking Association's safety and operations director, Charles G. Morgan, Jr., a plan was ready for introduction early this year, calling for a "No Accident" competition both between fleets and within fleets.

A committee of drivers helped draft the rules and, to stimulate a man's natural sporting instincts, companies have put up prizes of both cash and merchandise, for the winners. Final results will be entered in ATA's national fleet safety contests.

Scheduled, too, for the immediate future, is a series of educational meetings for promotion of good driving principles, these to be held on

(TURN TO PAGE 136, PLEASE)



THE BRUSH THAT CUTS WASHING TIME IN

Thousands of fleet and bus operators, large and small, have come to recognize Speed Wash as an indispensable root. They agree it does the best job, in the shortest time, and with the least effort.

It is easy to see why Speed Wash has won such wide acclaim. It does a complete job of soaking, scrubbing and rinsing in one operation. There's no waste motion. No changing of fools. No interruptions. No backtracking. Clean fresh water feeds through the handle and tufts so that a 12 inch path is completely cleaned with each stroke.

Speed Wash is also handy an durable. Handle is light weight electrically welded steel tube, with a cket at one end and standard hose connection at the other. Brush is retachable from handle and renewable at low cost. Tufts of first quality florsehair are hand-drawn into the block with rust proof wire. They amnot come out or come loose.

You'll find Speed Wash will make short work of washing your equipment. In fact, this brish has made such an outstanding record that it is unconditionally guare treed to suit you well in every way, shape and manner.

Order today. It but aren't wholly satisfied that you've made an exceptionally good buy return the brush within ten days for full refund. Be sure to extend priority rating of AA-5 or better to insure prompt delivery. Make out check or mone order to: Milwaukee Dustless Brush Co.



sweeping tools.

526 N. 22ND STREET, MILWAUKEE 3, WISCONSIN

In tanks and trucks, in landing boats and lighters, in hard-hitting fighters and high-flying bombers -Packard cables are "carrying the current" that brings engines into roaring life.

To these important military assignments, Packard Electric brings the skill and technical knowledge that . have been developed through fortythree years of cable manufacturing. Packard cable has long been the original equipment choice on a majority of cars sold—the replacement choice of leading service stations, car dealers and garages. It is used by the major airlines, and by a majority of truck and bus fleets. At the Indianapolis Speedway, too, every winning driver during the last thirteen years of the races used Packard cable in his racing car.

What does this mean to you? It means that when you use Packard cable, you know you're right!

Electrical Service Begins With Good Wiring

Ask your Packard jobber about



at

of

n ut

n

d

T-0-

or

th

ed

a

m-

th

inin ts.

ate al

ivon

NAL

PACKARD CERTIFIED RE-WIRING SERVICE

Based on proper checking and replacement procedure, using Packard cable.

Save Lives — Speed Victory BUY WAR BONDS

FOREMOST BUILDER OF



(CONTINUED FROM PAGE 134)

Sundays at one or the other of the two towns midway between Chicago and the Twin Cities where most of the drivers, working on a relay system, reside.

One objective of the safety plan has been the hope that it will lead to reduction of premium rates by insurance companies covering the member carriers. Since all reports made by the engineers go to the individual carrier, no overall report of accomplishments has as yet been assembled. The projected competitions will, however, require uniform accident reports to be submitted to a central control office and, when these are analyzed, it is confidently believed that the hoped for results will follow.

Already there have been other results, surprising results, from this safety program. When it was started last spring the trucks were travelling much faster than as of today but even at top speed were not getting from dock to dock on schedules as readily as now. This means, in other words, that, although speeds have been radically reduced, the trucks are now going places in shorter time.

The reason? Loafing en route has been reduced, perhaps eliminated entirely, and the drivers no longer speed to make up for wasted time. Slow, steady driving is saving tires and the equipment is getting home in better condition, as decreased repair bills reported by several operators prove.

(Please resume your reading on P. 47)

Niagara Frontier Truckers Form Federation of Associations

The first organization meeting of the Trucking Federation of Niagara Frontier, Inc., was held in Hotel Lafayette on Jan. 25, Carl L. Biers presiding. The following officers were elected for 1944:

President—Carl L. Biers, manager, Lyons Transportation Lines, Inc., affiliated with Common Motor Carriers Assn., Inc.; vice-president—Sherman T. Pilkey, secretary and treasurer, W. H. Pilkey & Sons, Inc., affiliated with Buffalo Independent Movers & Trucking Assn.; treasurer, Thomas J. Downing Sons, Inc., affiliated with Buffalo Trucking Assn., Inc.; secretary—Elmer S. Dayer, president, Dye Warehouse, Inc., affiliated with Buffalo Van Owners Assn., Inc.

SHOP HINTS

(CONTINUED FROM PAGE 45)

engine over until the cam raised the valve. Then, with a small hammer, a light blow was struck on the top of the valve. This broke the keepers loose.

After this, we turned the engine over until the valve closed, and removed the pipe. The valve spring keepers were easily removed with the valve lifter.

We find that this idea can be used on any make or truck or automobile simply by removing the valve lifter assembly and using a piece of pipe of the proper length and size. There is one caution that must be observed: The hammer blow must be struck in the center of the valve head so as not to bend or otherwise damage it.

(Please resume your reading on P. 46)

To the ends of the Earth



Delivering the Material of War

In all corners of the globe from Iran to Alaska, China and Russia, giant trucks like this Studebaker-built military cargo-carrier are getting the food, equipment and war materials to the fighting fronts—regardless of obstacles! Over almost impassable roads—up steep inclines (some as sharp as the 60% grade shown here) these trucks

sharp as the 60% grade shown here) these trucks are ''delivering the goods."—And doing the job so well that the Russians, for example, refer to all American trucks as Studebakers! Lengthening the life of Studebaker engines under these trying conditions are Hoof full power Governors, a vital factor in obtaining Power Plant Conservation and Maximum Mileage without restricting engine

Although military applications rightly receive preference, Hoof full power Governors, under existing regu-

lations, are also available to American transport operators. Write for your copy of the Free Booklet, "Everything Under Control," and the name of your nearest Hoof jobber.

HOOF PRODUCTS COMPANY, 6543 SOUTH LARAMIE AVENUE, CHICAGO 38, ILLINOIS

HOOF FULL POWER GOVERNORS

136

MAR



tion offers four features* that team up to maintain a positive sealunder all operating conditions.

In addition to saving the rubber in your present tires, Schrader Tire Valve Caps cut maintenance costs. Save yourself time and money-do these two things:

First: See that Sealing Valve Caps are on every tire valve.

Second: Whenever you check tire pressures, be certain to replace valve caps!

Observance of these two simple rules requires investment of a few pennies and a few seconds per tire but means dollars in additional tire mileage, and prevent hours of roadside delay.



*SCHRADER FEATURES

- Valve Cap body or shell.
- 2. Brass Swivel Plate allows Cap Shell to turn independently of rubber washer as Cap is applied. This assures proper seating of washer and prevents distortion.
- 3. Brass Dome-Shaped Plate provides an

indestructible chamber for safe clearance of valve core pin.

4. Molded Rubber Washer seals valve mouth when Cap is screwed on firmly by hand, while rubber between brass plates 2 and 3 provides spring action to maintain

SCHRADER TIRE VALVE CAPS

Guaranteed Air-Tight Up to 250 Pounds Pressure

A. SCHRADER'S SON, Division of Scovill Manufacturing Company, Incorporated, BROOKLYN, NEW YORK

f

el 2 e

frs ın V. th

ng lo

elo

op

rs

ne

re-

ng

he

ed

ile

ter

ipe ere

ed: in

not

(6)

NAL

HAYES' HAULS HARRIED BY WAR SHORTAGES

(CONTINUED FROM PAGE 49)

now. When we have valve trouble (we have plenty of it), we can limp in. But due to the shortage of tires and inability to get enough spares, we have to make two or three trips a day to change tires on the road. These service trips average 20 miles, with 90 miles the top limit. This condition compels us to use extra service trucks

and extra man-hours to handle these jobs which we can ill afford. Adequate stocks of tires would eliminate these wastes.

Unfortunately, each handicap to our maintenance program aggravates the others. For example, because we must send skilled mechanics out on these road service trips, we are desperately short of mechanics at both our Chicago shops. To relieve this condition, we hired four high school boys as gas and tire helpers. But they got so careless about maintaining proper inflation schedules, we had to let them go.

We replaced these boys with older men, experienced in this type of survice, at our 2432 South Canal St. shop, and they are working better. We could use more of this type of help, if we could get the men. For example, we have only two mechanics left, besides a body-man and myself, at the Calumet Ave. shop. If we could get just three more mechanics here, we could do a fair job of keeping our trucks in operation.

Parts Problem Growing Worse

The parts delays and inferior quality, this factor is growing increasingly worse. One unit, for example, had been out of service 60 days waiting for a new engine block. When it arrived, it was found to be faulty; the casting was porous, and there was a crack an inch long on the No. 5 main. This defect was due either to inexperienced help at the factory, or else it was just faulty all the way through.

Our labor cost to repair this block was \$100. We had more money in labor than the block was worth, had it been good. But that is not the worst of it: That truck was NOT hauling 20,000 lb. of freight a day for 60 days; an obvious loss to the company, a serious loss to the war production industry.

It is commonplace for units to be tied up 10 to 30 days waiting for parts. Here are three trucks idle because broken transmission parts can't be obtained. Gears for four-speed and over-drive we simply cannot obtain at this time and have no assurance of any specific delivery date.

th

we

ne

rea

Fr

un

pa

OV

M

an

du

me

ha

eat

MI

Valves and bearings have presented our worst parts handicap in recent months. Bearings are too softcrumble up anywhere from 10,000 miles, maximum, to less than 2000 miles. Valve failures are in the same mileage proportion. It is a terrific strain on our mechanical force when, because of these low quality parts, we have to overhaul the units from three to five times as often as we did with pre-war parts. These are actual happenings, and are compared with our very minimum of overhauling at 30,000 miles, and up, when quality parts were available.

To keep as many units rolling as (TURN TO PAGE 140, PLEASE)





The average truck motor has more than 100 points and surfaces where wear occurs-danger spots that need protecting! That's 100 good reasons why your motors need Fram-to keep oil clean, prevent unnecessary wear, save precious parts, prevent breakdowns, cut overhauls and repairs. Fram Oil & Motor Cleaners keep oil physically and visibly clean by filtering out dust, dirt, carbon, and sludge, while Fram's exclusive chemical treatment impedes the formation of harmful acids and corrosives that eat away motor parts.

But remember-you don't have to take our word for what Fram does. Here's our guarantee: Put Fram Oil & Motor Cleaners on your fleet. Operate on regular schedule for 90 days. Then, if you are not convinced that Fram saves many times its small cost, your money will be refunded. If your fleet already has filters, step up their performance by equipping with genuine Fram chemically-treated Replacement Cartridges, made to fit most types of filters. Fram Corporation, Providence 16, R. I. Canadian Distributor: J. C. Adams Co., Ltd., Toronto.



The Dip-Stick Tells The Story



ie ie ie

in

1g

n

or

ed bir-

nt-

nt

00

00

fic en,

ts,

m

lid

ıal

ith

at

ity

29

FAL

HAYES' HAULS HARRIED BY WAR SHORTAGES

(CONTINUED FROM PAGE 138)

possible we have to rob a truck that is laid up to fix another. It may take two to four extra hours of labor to make a change of parts for a rear axle assembly, or switch transmissions, but we've got to do it regardless of added labor costs, in order to move freight and keep the maximum number of trucks on an earning basis.

Our preventive maintenance program worked effectively on pre-war schedules. It still works well even in wartime, excepting as it is thrown out of balance by parts and help shortages. Also, inferior quality of such parts as we get easily treble shop work, over previous schedules. The whole PM program is quite well described and illustrated by the three working sheets shown in this article. Under normal operating conditions it is almost impossible to let a proper check-up or service of any kind es-

cape. Form No. 75, Fig. 1, for example, is an order for an all inclusive check-up. From this report, the gaage supervisor delegates the necessary repairs, adjustments or replacements.

This schedule requires each unit to come into the shop every 3000 miles. Based on average mileage consumed, that means about a weekly check-up of each unit. Form 137, Fig. 2, is used for trailer check-ups and is suplementary to the chassis-engine inspection.

Form 8, Fig. 3, is a report for each driver to fill out whether there is a mechanic at the terminal or not. This form will be self-explanatory. It is a double check or safety measure to prevent serious break-downs, should the driver find anything wrong in between routine inspections. These forms are filled out in duplicate, one copy being retained by the local maintenance shop, the other to the home office in Mattoon, Ill.

Tire Mileage Drops 35%

With respect to war tires, we are averaging about 35 per cent less mileage than we got with pre-war quality tires. This applies to original tread wear per tire. This reduced mileage, combined with shortages, obviously is a serious factor in cost of tire equipment, in addition to the extra labor costs in servicing them. We find recaps are economical. By close adherence to all the rules of conserving tires, we are now able to save one-half of our tread-worn casings for recaps. We turn them in before the breaker strips show, and, in remounting them, we put them on in pairs to assure even wear.

Pre-War PM Proving Satisfactory

for

WC

tru

Yo

ful

One thing that our long term PM has accomplished for us, and that in spite of inferior parts and more frequent rebuilding jobs resulting from it, is that actual road failures have been almost entirely eliminated, excepting those caused by tire failures. Before we developed an efficient preventive plan, we had to have service cars going out at all hours of day and night to tow in or fix up breakdowns on the road.

Referring again to the record sheets, these also comprise the foundation of our operating costs for each unit and the entire fleet. We can

(TURN TO PAGE 142, PLEASE)



• A truck's time is a precious thing, these days. Not only are trucks scarce, but they are getting scarcer! So these are times when every truck must work harder. How? Well, the first step for you to take is to write for our helpful booklet shown above. This valuable 16-page illustrated booklet on truck management shows ten ways for you to detect and eliminate those odd moments of IDLE TIME, sometimes small in themselves but adding up to a lot of waste in the aggregate. Write for the booklet today—it's FREE.

THE SERVICE RECORDER CO.
1375 Euclid Avenue • Cleveland 15, Ohio

The Servis Recorder
Tells Every Move Your Truck Makes

The story of

the day's work

Here's Where the Trouble Starts!





Avoid running into more costly repair by checking engine bearings for wear at the first sign of oil pumping. Worn bearings throw excess oil into cylinder assemblies. It burns to carbon on pistons, piston rings, spark plugs and valves—causing sluggish and costly operation and endangering critical parts. Bearings are a critical, war-needed material, so use them wisely but if replacement is necessary for engine efficiency—replace with Federal-Mogul Oil-Control Bearings to restore power, pep and economy.

OUR AIM IS SPEEDY VICTORY!

All over the world our men are fighting together for us. They are depending on us back home to work together for them. We *must* keep our trucks and buses rolling to speed the war effort. You can help by performing complete and careful overhaul jobs—by remembering that *just any*

pair of bands can't replace your skill. Federal-Mogul supports you by doing everything possible to supply your service bearing needs promptly. Let's work together for victory!

FEDERAL-MOGUL SERVICE . DETROIT 1, MICHIGAN

The Biggest Name In Engine Bearings

FEDERAL-MOGUL

Oil-Control Bearings



e

eee

·d

h

M.

HAYES' HAULS HARRIED BY WAR SHORTAGES

(CONTINUED FROM PAGE 140)

check back on these every 30 days for check-up on gasoline and oil costs in fractions of a cent per mile. In turn, we post these mileage reports on the board in the shop, so the mechanics, too, know the condition of each truck with respect to gas consumption.

Carburetors come in for careful attention to assure the best possible performance, as well as to save gasoline. We have our carburetors overhauled about every 20,000 miles, or, even rebuilt if necessary. They must be checked and kept in proper adjustment and thoroughly cleaned. If this is not done, we can see increased gasoline consumption and reduced power on the hills. Clean carburetors in proper adjustments save us one-half to one cent per mile. When it gets a penny high, we check on and have the carburetor changed, then get back to normal consumption again.

To facilitate this schedule, we send a number of carburetors out to experts for rebuilding, so that we can have rebuilt ones in stock. The same procedure is followed with distributors.

If we had plenty of help we could eliminate all road failures emanating from engines or chassis. And, if we could keep our tire stocks to provide enough spares for contingencies, we could practically eliminate tire road failures too. In this way, we could cut down our operating expenses on a fairly profitable schedule, and, in addition, perform a far better service to the war program than present operating conditions permit.

The use of time-saving equipment, such as gas analyzers, motor analyzers, point synchronizers, cam dwell meters, tachometers, etc., is general. Under the present labor shortage we could hardly get along without them. Besides cutting down the time for inspections and complete tune-ups, they aid us in providing better engine performance.

We use the safety type of gasoline tanks to prevent fire in case a truck turns over. It is hard to get gasoline out of them. Drivers are instructed to keep within the national 35-mile speed, even though we found that some of its advantages are offset by more serious disadvantages. Our trucks are built to run most efficiently and economically at 40 to 45 miles per hour. The latter is a good sensible speed in the country, and quite nearly essential where average hills prevail. With our trucks under full loads, it is physically impossible to make the hills on the 35-mile speed without using gears on the hills.

A

H

Tru

bee

and

hel

ser

its

see

Co

Be

Pulling loads in the low gears wears off rubber wastefully and unnecessarily. Obviously, this puts extra strains on the engine parts, as well as the gears. But that is not all. Gasoline and oil consumption mount all out of proportion to operating in high. Wastes like these should be eliminated without delay; first, to conserve vital war materials, and, second, to get better operation at lower costs.

We use governors, and check them with a tachometer on every inspection. This is important. An engine turning 3100 rpm. if developing its

(TURN TO PAGE 144, PLEASE)

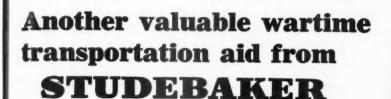


JUST OFF THE PRESS!

Warting Information

FOR THE DELIVERY TRUCK

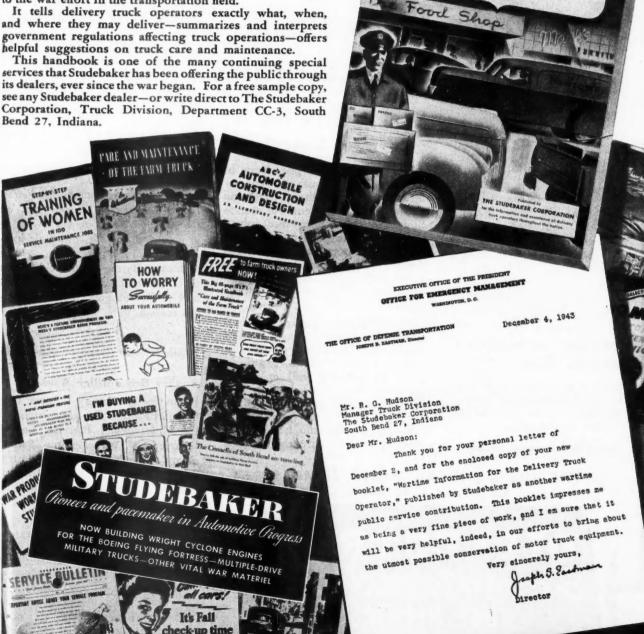
OPERATOR



HERE'S a new, specially prepared, illustrated, 52-page handbook—"Wartime Information for the Delivery Truck Operator." This comprehensive daily reference has been acclaimed as one of the most useful home-front helps to the war effort in the transportation field.

This handbook is one of the many continuing special services that Studebaker has been offering the public through its dealers, ever since the war began. For a free sample copy, see any Studebaker dealer-or write direct to The Studebaker Corporation, Truck Division, Department CC-3, South

at Studebaker



HAYES' HAULS HARRIED BY WAR SHORTAGES

(CONTINUED FROM PAGE 142)

full hp. will turn up 50 miles per hour on the road. These inspections pay, as running an engine wide open means you will not have an engine very long.

We need thermostats badly for better operation and conservation of engines. We can't get them now. Keeping plenty of water in the radiators is necessary. In winter, we use radiator covers. If new ones can't be obtained, we resort to the "gunny sack."

We use medium size oil filters. We used to change crankcase oil every 1000 miles, now 6000 miles is sufficient. With them, oil consumption is six times as economical as before. We change filter cartridges every 3000 miles.

Metal spraying worn parts helps to get our trucks back on the road with less delay. Transmission parts, main drive shafts, axle tubes and rear hubs (bearing area), transmission countershaft, for press fit drive gears, especially, are items in this category. Our local metallizing shops give us fairly quick service on the major items. But due to the large volume of this work done in Chicago, we have not been able to get metallizing service on small items like king pins, etc. Luckily, the regional ODT is making every possible effort to broaden this service because of the parts shortage and in order to save war materials and lessen the costly delays in truck transportation.

Metallized parts wear as long as pre-war parts. In fact, the process improves shafting and bearing surfaces because it produces a harder finish. Besides, it affords a lubrication reserve on the wearing area of bearing surfaces and journals.

Fenders get bunged up when drivers back into other units while loading up, or putting gas in tanks. While a minor fender or body injury may not affect the truck's operation, it does the affect the driver's morale. If you let these things go, drivers soon get the feeling, "If the company don't care, why should we care?" and they get careless. Drivers don't like flapping fenders-such noises distract them, and they get discouraged. We fix all body and fender work as promptly as possible, using air hammer for straightening dents, welding with oxyacetylene gas to weld broken parts, buff and paint. Our units must be kept looking good for many obvious reasons.

END

(Please resume your reading on P 50)

Bowers Buys Miller Wood

The Bowers Battery & Spark Plug Co. of Reading, Pa., has purchased the Miller Wood Products Co. of Berkeley, Cal., manufacturer of wood separators for the battery industry. The equipment of the Miller company is being dismantled and will be erected in Reading, Pa.

Tyson Bearing Gets Second "E"

The Tyson Bearing Corporation, Massillon, Ohio, has been granted the second renewal of the Army-Navy "E" award for achievement in production of war materials. The original award was made in December, 1942.

YOU CAN REPAIR Synthetic RUBBER TUBES WITH YOUR DILLECTRIC



COMPLETE INSTRUCTION MANUAL Gree!

Pictures and describes in detail the proper preparation of tube injuries for repair and safe, permanent vulcanization.

Request a copy, today!

Vital Information for All Fleet Operators

Special attention is necessary in the repair of synthetic rubber inner tubes for tires. Synthetic rubber has less tear resistance than natural rubber and injury usually results in a tear instead of merely a puncture. This makes proper reinforcement and vulcanization of every repair a vital requirement to prevent repair failure.

Utilizing present equipment and supplies, exhaustive tests by Dill engineers have proved the Dillectric method of tube repairing performs equally well on either synthetic or natural rubber. Full instructions will be sent to you on request. You can depend on Dillectric. It's the safe, trouble-free method for all your tube repairs.

THE DILL MANUFACTURING COMPANY

700 East 82nd St., Cleveland, Ohio

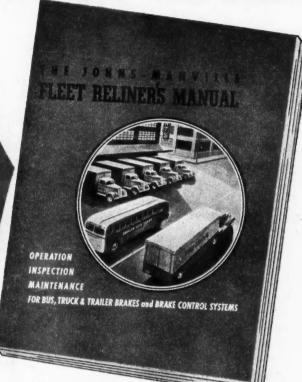
DILLECTRIC Electrically VULCANIZED TUBE REPAIRS

144

MAR

NOW AVAILABLE

New 80-page book on BETTER BRAKE PERFORMANCE



Johns-Manville presents the Fleet Reliner's Manual, the only complete book of its kind!

TO help your maintenance and operating men get faster and safer brake service from your shops, Johns-Manville offers the new Fleet Re-

This completely illustrated, 80-page book describes in detail and in a simple, clear-cut manner how best to repair and maintain the brake systems of all modern heavy-duty vehicles.

Covers every brake system

Every part of every brake and brake-control system in popular use today is described and the adjustment procedure is explained. Handy troubleshooting charts offer time-saving hints. The proper selection of brake lining is also carefully explained. It's a real textbook, with clear illustrations and simple charts.

A Step-by-Step Procedure for Relining Brakes A Glossary of Common Brake-Relining Terms Hydraulic Systems Mechanical Hand Systems Compressed Air Systems

TABLE OF CONTENTS

Electric Systems Brake Systems on Popular Trucks

Vacuum Power Systems Selection of Type of Lining and Brake Balancing

Aid in training new men

The Fleet Reliner's Manual can be invaluable to you in training new mechanics. It will also be a big help to all mechanics in guiding them toward quicker, more efficient servicing, resulting in safer braking and fewer lay-ups for your fleet.

TO: Johns-Manville, Dept. FR, 22 E. 40th St., New York 16, N. Y. Please send me a copy of your new 80-page Fleet Reliner's Manual. I understand that this does not obligate me in any way. Title Combany



)

d

of

d

n-

e

he vy 0g.

er,

AL

FLEET-TESTED SETS



Even on engines of average size-the oil filter handles barrels of oil every day-extracting dirt, grit, asphaltenes and other foreign particles that shorten engine life, waste fuel, and lead to premature repairs and replacements.

Every day on millions of horsepower of engines, MICHIANA Filters are keeping engines young, preventing wear and early replacements, and cutting oil costs. Every day-all over the globe-on vital motorized military equipment, MICHIANA Oil Filters are proving their unusual capacity and reliability in the cleansing of enough oil daily to float a battleship.

Because vital military requirements take up so great a percentage of our increased output, MICHIANA Filters for even essential trucks, buses, tractors and cars can be supplied in limited quantities only. . . . We suggest therefore that you anticipate your requirements as far ahead as possible. MICHIANA PRODUCTS COR-PORATION, Michigan City, Indiana.





MICHIANA

SIX MONTHS OF MANPOWER TRAINING

(CONTINUED FROM PAGE 43)

tractor - trailer combinations with heavy loads is too arduous for women.

Practically all the companies that have sent trainees through the school are heartily in favor of it, even if some of the men they sponsored have not turned out so well. Probably half of the 71 graduates in the first six months are still with the companies that sent them to the Center. These truck operators believe that the driver training school is an effort on the part of the trucking industry to help solve its own manpower problems. They find that this cooperation is a definite asset in relations with the War Manpower Commission on manning tables and with Selective Service on replacement schedules. The U. S. Employment Service also gives preference on referrals within the trucking industry to those employers who are participating in the driver training plan.

Faculty of the school, which is under the Division of Vocational Training for War Production Workers of the Detroit Board of Education, financed by Federal funds, numbers three men. They are: William Merritt, Edson Smith, both veteran over-the-road drivers, and Lt. John Cross, of the Detroit Police Department's Bureau of Public Safety. Merritt, a 46-year-old driver with 20 years' experience and a fine safety record, is the only full-time faculty member. Smith, national champion driver of the ATA rodeo on 1938 and 1939, alternates between an instructor's role and his job as a driver for the George F. Alger Co. Cross lectures in classroom sessions on traffic

laws and safety.

The Center is located on a vacant lot, half a city block in extent at Brooklyn and Pine Streets, three blocks from Briggs Stadium, home of the Detroit Tigers, and about a mile and a half from downtown Detroit. Two tractors have been loaned to the school by Fisher Body Division of General Motors for instruction purposes, while another tractor is on loan from Red Star Transit Co., Inc. Three wailers are on loan from the Freuhauf Trailer Co. Some packing cases are set up in parallel rows

(TURN TO PAGE 148, PLEASE)

tion

hal

"Pe

Tra

tecl

lon

hig

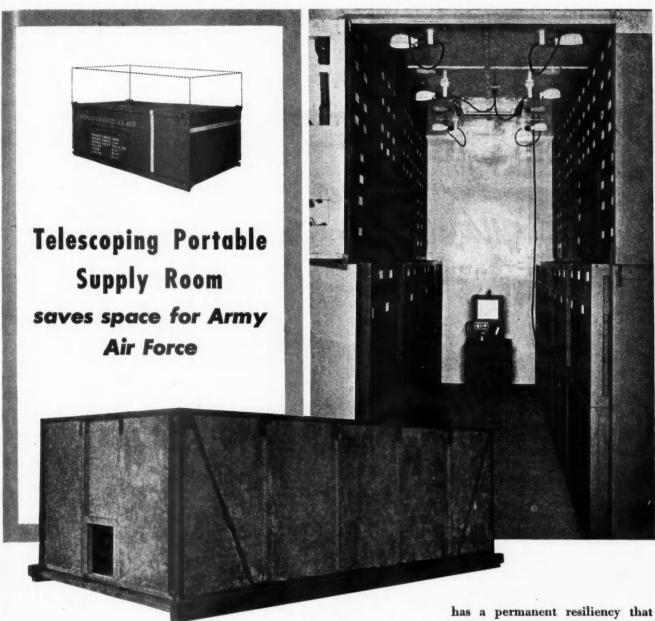
feet

bas

par

del

MAR



FIBERGLAS* PROTECTS ITS LOAD OF PRECISION AIRCRAFT PARTS

THIS portable storage room helps solve its own transportation problem by telescoping to only half its size for shipment. It's a "Porto-Van" made by the Fruehauf Trailer Company that serves as a technical supply room. Twelve feet long, six feet wide, and seven feet high, it's only three and one-half feet high when it's moved from airbase to air base, because the top part telescopes over the bottom.

The "Porto-Van" is stocked with delicate mechanical parts. To protect it from high and low temperature extremes, Fiberglas Semi-Rigid Bats $1\frac{1}{2}$ " thick completely insulate the van.

Fiberglas is a permanently efficient insulating material made of fine threads of glass. Because it's glass, it is fireproof and not affected by atmospheric moisture. It

has a permanent resiliency that enables it to take the bouncing and bumping it's likely to get while being shipped around the world to Army Air Force bases.

For detailed information about Fiberglas and Armstrong's other equipment insulation materials— LK Corkboard and Temlok—write to Armstrong Cork Company, Equipment Insulation Department, 3503 Concord Street, Lancaster, Penna.

*Reg. U. S. Pat. Off. Owens-Corning Fiberglas Corp.

ARMSTRONG'S EQUIPMENT INSULATION

LK CORKBOARD

FIBERGLAS*

TEMLOK



Now, as in peacetime, we are specializing in the development and production of fabrics for specific needs. In war, Naugahyde has scores of vital jobs, meets numerous government specifications... from flameproof berth covers for Navy fighting ships to seat upholstery for trucks, tanks, and airplanes.

Prior to Pearl Harbor we had already started developments to improve our commercial products through the use of plastics. This work was of tremendous value when we were called upon to furnish an almost unlimited number of special coated fabrics, for the Armed Forces.

War developments have also increased our abilities in the techniques of coating not only cotton but rayon, nylon, glass and other fabrics, using plastics or synthetic rubber coatings

each designed for a specific purpose.

As we work to win the war, many new developments are coming from our laboratories which will result in a greatly improved family of Naugahyde Upholstery Fabrics after the war. Then, you will find that no matter what your upholstery problem—no matter how specialized it is—there is a Naugahyde Upholstery Fabric for you that resists wear, looks smart, costs little.



NAUGAHYDE is now manufactured and sold to conform with the following specifications: 34L13 Bureau of Ships; E-KK-L-136a, Type 3 Federal Specification; 12026A Air Corps Fireproof Specification; 27F11 U.S. Navy; AXS-992 Ordnance Department; MN245 (both types) Maritime Commission.

Serving through Science



(CONTINUED FROM PAGE 146) to resemble a loading dock, while chalk lines on the cinders simulate street boundaries.

The outdoor sessions with practical driving lessons on the lot are alternated with four-hour classroom periods three days a week in the Franklin School, which is just across the street from the Center. There are 48 hours of instruction in a six-day week and 96 hours of work are required before a trainee is granted his certificate of graduation. The course is staggered so a trainee can enter at the beginning of any week and complete it in two weeks' time. On the first day Merritt endeavors to make the new men feel at home. Many of them are nervous and shy, with a feeling of inferiority towards those who already have had one week of instruction. This nervousness soon disappears as the trainee becomes acclimated and finds that his fellow trainees know no more about it than himself. Most of the trainees are very serious about the course, and only rarely is there any horseplay. If a trainee is too boisterous, his fellow students usually quiet him down.

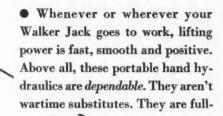
Most of the incompetent persons are weeded out in the first three days of the course. However, a man is never dropped until he has been turned down by all three instructors. This insures that each one will be given an adequate opportunity to prove his fitness to be a truck driver and no one will be eliminated on snap judgment. The mortality rate among trainees usually is 40 to 50 per cent in the first three days. Those that survive this period generally complete the full course. Some of the men are dropped for mental incompetency, others for careless handling of the equipment, while still others quit of their own volition because they do not like the work or wish to look for jobs elsewhere.

The outdoor practical instruction is alternated with the indoor class-room work to provide variety and to maintain the interest of the trainees. The outdoor work includes a complete equipment check of tires, gasoline, oil, water, lights and safety items, driving a tractor minus trailer, double clutching and gear shifting. The trainees are given this instruction gradually, especially if they have had no truck driving experience, so they will gain confidence. Then

(TURN TO PAGE 186, PLEASE)

MARC

READY for ACTION THE INSTANT YOU TAKE IT OUT OF THE TOOL BOX!



quality, full-value tools, designed for lasting service. Examine them and you'll see why Walker Leads in Jacks.

WALKER MANUFACTURING CO. OF WISCONSIN RACINE, WISCONSIN

Also Makers of Exhaust Silencers and Electric Lifts

ONLY WALKER SERIES 900 JACKS HAVE ALL THESE FEATURES

Gun Barrel Steel cylinder, leak-proof joint with base.

Integral, heat-treated, rustproof cap and screw.

Specially shaped cup leathers prevent leaks in any position.

Balanced air-space eliminates need for air vent.

Snug-Fit Power Pump, sealed against leakage.

Rhythmatic Valve Action—no waste handle motion.

Micro-accurate Safety Release Control bayonet handle.

VAINER leads in JACKS

0

AL.



Seldom, if ever before, has it been necessary for body equipment to turn in an efficient day's work after it has been in active service 'way past the normal depreciation period. This is just one of the stringencies of war times.

It is also the supreme test of all we've ever said about the ability of York-Hoover Bodies "to take it".

Everywhere York-Hoover Bodies "ARE taking it", turning in enviable records for efficiency

and toughness; proving that skillful engineering, the right materials plus long years of experience are still the best insurance for constant, trouble-free operation.

You are probably in need of new equipment, light or medium duty service units, or heavy duty line equipment.

We'll be glad to help you with your plans and when it is again possible, will produce for you body equipment incorporating all the old and proven features plus the NEW things we have learned in body production.



GUNITE

ELIMINATE BRAKE DRUM
TROUBLES and KEEP YOUR
TRUCKS RUNNING

ENGINEERED

BRAKE

DRUMS



800,000 BRAKE DRUMS SINCE 1928

GUNITE FOUNDRIES CORPORATION
304 PEOPLES AVENUE • ROCKFORD, ILLINOIS





SEND FOR TRUCK DECAL VISUALIZER ... Free!

Visualizer contains outline diagrams of body types, cabs, rear doors, tops, visors, side panels, etc., for sketching and arranging trademarks, lettering, etc. Also includes important data describing the most effective use of the free advertising space on your trucks. Address requests to Department 32-3

Improve Wartime Truck Appearance with MEYERCORD DECALS

Pre-war trucks, poorly groomed, look twice as old! It's easy to improve appearance and add to the merchandising mileage value of your equipment with durable, weather-tested Meyercord Truck Decals. They're used on America's leading fleets. Trademarks, product reproductions, lettering and pictorials can be reproduced in any colors or size. Fast "overnight" application saves time and handpainting cost... regardless of the size of your fleet. Free technical and designing service. Write for complete details.

Buy More War Bonds...and then KEEP THEM!

THE MEYERCORD CO.

World's Leading Decalcomania Manufacturer

LAKE STREET . CHICAGO 44, ILLINOIS

Gro

up i

nece

radi

the

time

LON

DETR

MARCH



Growing steadily with the automotive industry since 1903, Long has built up the trained personnel, the production equipment and the knowledge necessary for continuous, quality production. Today, Long clutches, radiators and oil coolers serve the Allies on land, sea and air, around the world. Tomorrow, they will again be available for America's peacetime transportation and industry.

LONG MANUFACTURING DIVISION

BORG-WARNER CORPORATION

DETROIT, MICH. . WINDSOR, ONT.





Warehouses: NEW YORK - CHICAGO - KANSAS CITY, MO. - MINNEAPOLIS - DALLAS - LOS ANGELES - SAN FRANCISCO Canadian Factory: WIX ACCESSORIES CORP. LTD., 161 Bay St., Toronto, Ontario

It is

Dayt

cessf

must

In achie

heat.

will 1 To edge

MARCH



We've Done it Before_and We're Doing it Again!

It is highly significant that during the last 11 years, Dayton Rubber has developed sensationally successful synthetic rubber industrial products possessing many of the very same characteristics that must be present in a good synthetic rubber truck tire.

In these industrial products, Dayton Rubber has achieved the necessary high resistance to abrasion, heat, oils and solvents—produced materials which will not crack or chip, harden or soften.

Today, with that experience and technical knowledge to draw upon—with expanded plants and

great numbers of specially trained workers—Dayton Rubber is hour by hour building better synthetic rubber truck tires.

Scan the record of natural and synthetic rubber

developments and you'll understand why you can look to Dayton for the best truck tires it is possible to build.

SACK THE ATTACK WITH WAR BONDS

THE DAYTON RUBBER MFG. CO., DAYTON 1, OHIO

One of the operators of the first Government Dual-Unit Type Synthetic Rubber Production Plants

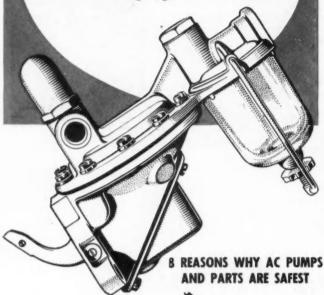
Tires by

Dayton Bubber

SCO

PROTECTION FOR The Heart of the Fuel System

You get reliable performance and long life from your AC Fuel Pumps because the quality is built in, from blueprints to finished products. You will best protect that performance and durability if you install AC Authorized Factory Rebuilt Pumps (when replacement is necessary), or rebuild your present pumps with AC Diaphragm or Parts Kits.



- * Careful control of pressure and flow assuring correct fuel supply.
- Accurate hardening, precision machining of parts essential to long life.
- Accurate control of spring tensions and temper.
- * High, and controlled, pin hardness.
- * 4-layer, patented-impregnation diaphragms of special airplane cloth.
- * Carefully finished rocker arm pads, located to center on cam.
- Split-hair rocker arm clearance and control of pad hardness.
 - Uniform pull rod hardness at pin holes.



BUY WAR BONDS - BRING VICTORY QUICKER





have always been and to be will continue by the BEST BUY

Some of the time-tested features that have long set the pace for economy and durability in the truck body field are:

- 1 Adjustable sills.
- 2 A solid, unyielding understructure of virtually one-piece construction thru the generous use of welding.
- 3 Correctly placed sill-spacers prevent spreading or overturning.
- A Rounded stake pockets to prevent tearing out of rails.
- 5 Reinforced stakes.
- 6 Rear stake section locks.

We hope that in a short time a tapering off of Government orders and restrictions may permit us to supply your requirements for Dump Bodies and Hydraulic Hoists, Stake Bodies and Special Purpose Bodies. Watch our ads for future announcements. Write for names and addresses of Distributors near you -- also Bulletin and prices.

THE PERFECTION STEEL BODY CO. GALION, OHIO



Keep Buying

War Bonds and Stamps

At Home and Abroad THOMPSON PARTS ARE SERVING TO



UR big job is to keep Thompson Aircraft and Automotive Parts flowing to the battle fronts.

But we are also teaming up with T.P. Jobbers to do the best possible job in getting replacement parts to the repair trades and truck operators here at home.

Production of civilian trucks has been practically at a standstill—only 25,000 new ones produced in the last two years. To keep America's trucking transportation system from becoming paralyzed is a job that requires the ingenuity, skill,

and cooperation of everyone concerned with the operation and maintenance of cars and trucks.

Your Thompson Products Jobbers offer valuable, practical cooperation by (lst) making every effort to supply promptly engine and chassis replacement parts which are needed for truck maintenance, and (2nd) by offering machine shop service for reconditioning or rebuilding engines that does much to make up for the shortage of experienced mechanics. See your T. P. Jobber.

THOMPSON PRODUCTS, INC. • Cleveland — Detroit — Los Angeles

Thompson Products

Beating Production Schedules on Vital Parts for Military Engines - Aircraft and Automotive



On city streets and country highways the unexpected happens many times a day. The crossing gates come down suddenly — a car shoots out of a side street — a child darts into the road. Every truck driver needs a braking system on which he can absolutely rely for plenty of power and instantaneous action.

With the Vacdraulic Booster the braking power of any hydraulic system is multiplied many times, so that the driver can brake even the largest truck with passenger car ease.

The Vacdraulic Booster is a miracle of simplicity — a small, compact, self-contained unit, that can be installed at any convenient point in the hydraulic system. The braking action is instantaneous, without any operating lag. The driver's foot always gets the proper "feel" to enable him to determine the right amount of pressure to exert.

The amplifying effect comes in so evenly that the braking action is always smooth. When the engine is not running the hydraulic brake works in the usual way. With no rods, links or lever connections to the brake pedal, there is no mechanism to be damaged or to get out of adjustment.

TO REPLACE OLD EQUIPMENT

The Vacdraulic Booster does not have to be built into the structure of α truck, but can easily be installed at any time, with α simple connection to the intake manifold.

This ease of installation particularly adapts it for the replacement of worn or obsolete booster equipment.

While the Empire plants are fully engaged in war production, Vacdraulic Brake Power Boosters are available for new installations or replacements within the limits of W.P.B. regulations.

Engineering data and full information on the new operating principle of the Vacdraulic Booster will be furnished on request.

ELECTRIC BRAKE CO.
South 14th Street

Manufacturers of MAGDRAULIC ELECTRIC BRAKE • VACDRAULIC BRAKE POWER BOOSTER
AND EMPIRE STEERING BOOSTER AND STABILIZER







This <u>extra-life</u> brake lining wears longer...guards life of trucks

You'll make no mistake by standardizing on CoMax—the <u>extra-life</u> brake lining. It's great for trucks and other commercial vehicles. Thousands of users agree that CoMaX can't be beat for quick, safe, smooth stops.

CoMaX has reinforced backing which permits deep seating of rivets, thus extending the period of safe usefulness.

Then, too, CoMaX is non-compressible, uniform in texture, easy on drums, and is age-proof.

Produced in rolls, sets, blocks and slabs. For details, consult your nearest Wagner jobber, or write us.



FOR VICTORY-BUY U. S. WAR BONDS and STAMPS



B44-4/

Wagner Electric Corporation

ESTABLISHED 1891

6470 Plymouth Avenue, St. Louis, 14, Mo., U. S. A.
AUTOMOTIVE AND ELECTRICAL PRODUCTS

WAGNER
Astometive Products Include:
LOCKHEED
HYDRAULIC BRAKE FLUID
LOCKHEED
HYDRAULIC BRAKE PARTS
COMOX
BRAKE LINHNG
WAGNER
AIR BRAKES
TACHOGRAPH
(Recording Speedometer)

... For Economy

M. P. H." TO "R. P. M.!"



Truck and Bus Operators now Save Up to 25% on Fuel and Upkeep with Stewart-Warner Motor-Mile Tachometers

 $E^{
m very}$ driver has his own "ear" for r. p. m. But, too often, a nervous right foot can throw an ear off the "economy beam." That's why fleet and bus line operators are installing Stewart-Warner Motor-Mile Tachometers-the dial that keeps 'em from driving your irreplaceable trucks by ear.

Here's how it works: the "economy range" is indicated by two stationary pointers. This range varies for different trucks. All the driver does is keep the tachometer needle between these two limits.

These fuel-, money- and equipment-saving instruments can be installed in 21/2 to 7 hours' time. Prices range from \$25 to \$35. Stewart-Warner Motor-Mile Tachometers are sold on priority (you can get them if your work is related to the war), by the Stewart-Warner jobber near you. Write for his name-there is no obligation. Send in the coupon today.

STEWART-WARNER

MOTOR-MILE TACHOMETER

CHICAGO



ILLINOIS

STEWART-WARNER CORPORATION 1876 Diversey Parkway, Chicago 14, Illinois

trucks. Please send complete information on Stewart-Warner Motor-Mile Tachometers.

Address

MARCH, 1944

S

ra-

ер

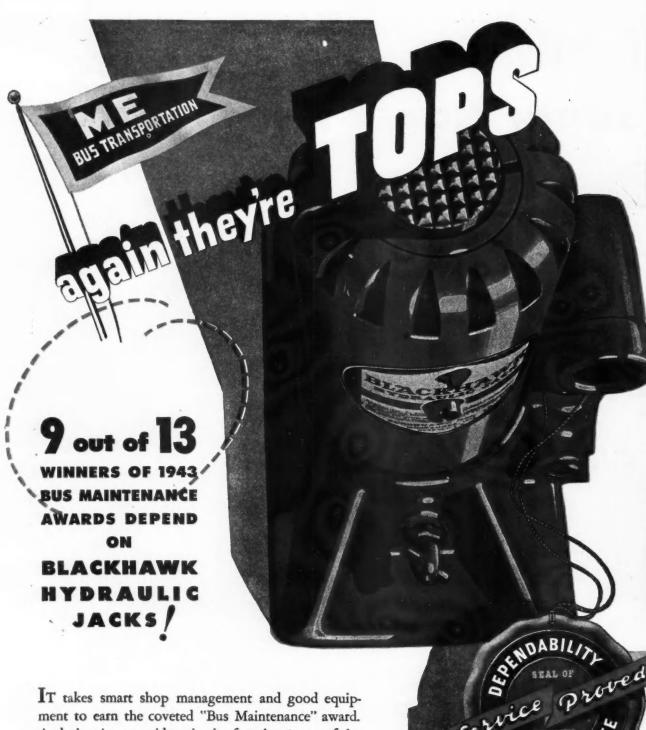
ess.

ex-

ails,

Use postage-paid card inserted in this issue for free information on advertised products

161



IT takes smart shop management and good equipment to earn the coveted "Bus Maintenance" award.

And there's no accident in the fact that 9 out of the 13 winners of 1943 awards use Blackhawk Hydraulic Jacks. Blackhawk's have led the field in the equipment lists of winners every year since 1930, when the awards were first made. Yes, Blackhawk's are proved in service and service proved to be "tops".

When you need a jack—buy the best—buy Blackhawk—from your Blackhawk Jobber!

WICE PROVE

This seal is found ONLY on BLACKHAWK JACKS your assurance of a wise and safe investment.

A Resoduct of BLACKHAWK MFG. COMPANY, Dept. J1134, Milwaukee 2, Wis.

BLACKHAWK



Continenta Red Seal



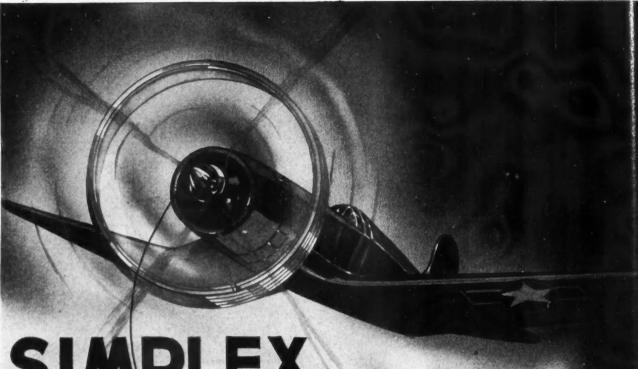
Awarded to the Detroit and Muskegon Plants of Continental Motors Corporation for High Achievement

OUR DOLLARS ARE POWER, TOO! BUY WAR BONDS

The strong surge of power which is rolling back the black clouds of war, now permits us to see clearly the light of Victory — a flaming light of liberation that foretells a new age of peace and security. In that age, Continental Engines will contribute greatly to the best needs of mankind, even as now they are shortening the war with their Power to Win.

<u>Continental Motors Corporation</u>
MUSKEGON, MICHIGAN

RNAL



SIMPLEX Rings spread their wings...



RECONDITIONS MOTOR STOPS PISTON SLAP CONTROLS OIL RESTORES POWER For many years Simplex Piston Rings have been sold to the automotive industry under the trademark of the "Flying Riston". How prophetic that trademark!

The Simplex Ring...the same piston ring used by tens of thousands of repairmen to recondition motors...has passed the most exhaustive tests of military engineers.

Today, eighty-five per cent of our greatly increased production is for our military services. However, our earnest prayer is that this year of 1944 will be the year of our total victory.

BUY MORE WAR BONDS

HELPING TO MAKE HISTORY ON THE EARTH AND IN THE AIR

SIMPLEX PRODUCTS CORP., 3820 Kelley Ave., Cleveland, O.

BONDED TO SHELL

The sealing element in Victor Oil Seals is moulded to exact dimensions and permanently bonded to the metal shell. No clamping device is needed to prevent the element rotating with the shaft. There can be no leakage through the structure of the seal.

The sealing element is always concentric to the shaft.

AN EXCLUSIVE VICTOR FEATURE

Experience with Victor Oil Seals in trucks, fanks, Joeps, guns and airplanes, under wartime conditions, further confirms the unusual oil, hear and age-resisting characteristics of this great Victor product, already proved in peacetime operations. Victor Manufacturing & Gasket Co., P. O. Box 1333, Chicago, III., U. S. A.

............

TICTOR GASKETS . OIL SEALS

e

15

d

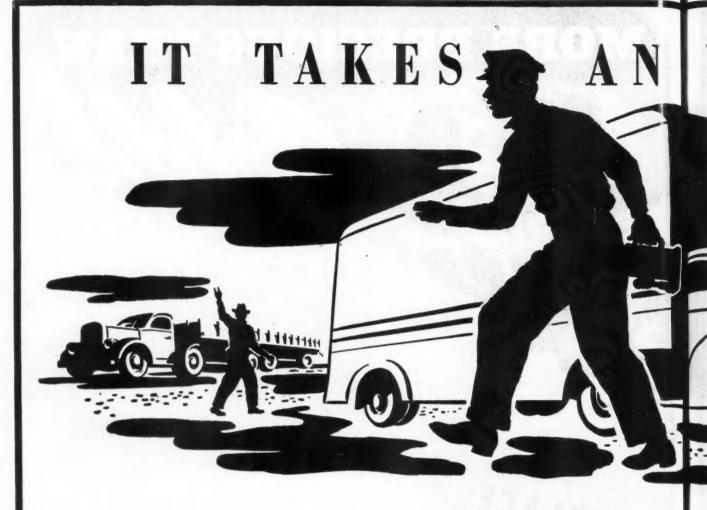
e

URNAL





JRNAL



TO MAKE ONE TIRE DO THE

With monthly civilian truck tire production running about 300,000 units against eligible needs totaling well over 600,000, tires must be made to do double duty. It's just common sense to call in an experienced truck tire man to help you do that job.

Fisk Truck Tire Distributors have built their business on knowing tires. Their experience and "know-how" combined with Fisk's Mileage Service offers a simple, practical plan to catch tire trouble before it happens, keep tires in service longer and cut operating costs to a minimum.

Fisk Tire Mileage Service

- 1 Increases tire mileage
- 2 Catches tire trouble before it happens
- 3 Cuts operating costs
- 4 Provides accurate tire service records
- 5 Supports applications for new tires

FISK MILEAGE

FISK TIRE COMPANY-Division of United States Rubber Company, Chicopee Falls, Mass.

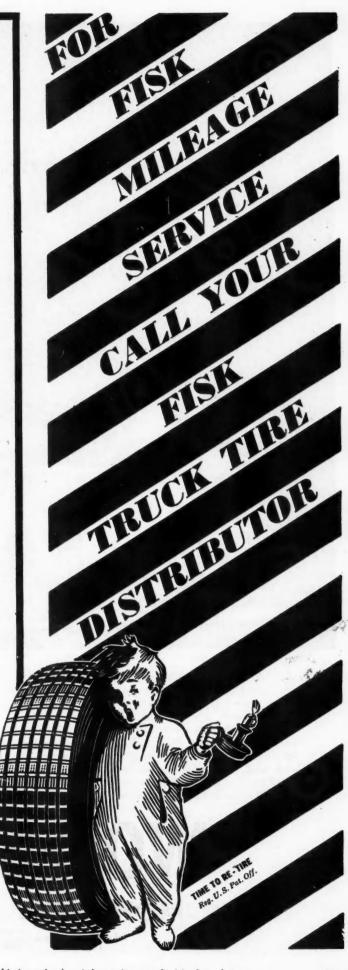
EXPERT



WORK OF TWO

Whether you operate a few trucks or a big fleet, do local hauling or cover a wide area, call in the Fisk Truck Tire Distributor today. Regardless of the make of tires you are now using, helping get most miles from those tires is his business. And he's good at it.

TIRE



ilt

exith

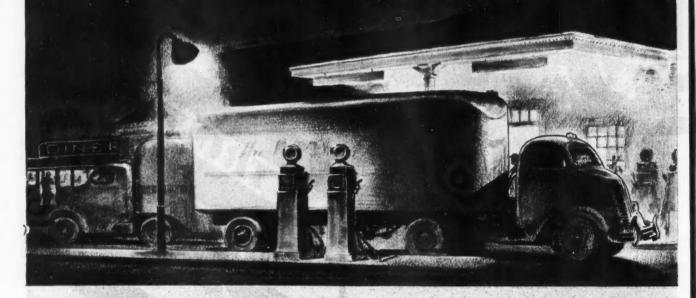
le.

ore ger

m.

RNAL

FLEETS that burn the midnight oil



Without the motor truck and the bus, America could not fight this war-let alone win it! For those fleets that cruise our highways night and day are vital parts of an assembly line on which Allied hopes depend.

To meet the extra strain of tough schedules and wartime overloading, Wolf's Head has developed a special oil for severe heavy duty service. Fortified to withstand high engine temperatures, this Wolf's Head HEAVY DUTY OIL also is extremely resistant to oxidation, and is highly detergent.

Get the facts about the amazing way Wolf's Head HEAVY DUTY OIL is cutting costs and saving engine jobs for hundreds of fleet owners. Write for our interesting, free booklet: "Heavy Duty Maintenance." Wolf's Head Oil Refining Co., Inc., Oil City, Pa., or New York 10, N. Y.

FREE LABORATORY CONTROL SERVICE

This Wolf's Head service helps establish correct drain periods, reduce lay-ups and conserve engine life for fleets. It costs nothing—does much. Write TODAY for details!

WOLF'S HEAD

MOTOR OIL AND LUBES

100% PENNSYLVANIA P.G.C.O.A. Permit No. 6





Today, batteries in essential trucks, buses and tractors are "war batteries"—helping to do a big job. That's why the thick plates, dual insulation and exclusive "Safety-Fill" construction of Willard Commercial Batteries are so important. These features help to give Willards their ability to stand up when the going is extra tough. When you must buy new batteries, buy ones built to measure up to the stiff requirements of wartime use. Buy Willards!



— in Tanks • Combat Cars • Jeeps • Walkie-Talkies • Ships—and in Cars, Trucks, Tractors and Buses at home.

-have the power to carry on!

WILLARD STORAGE BATTERY CO. . CLEVELAND . LOS ANGELES . DALLAS . TORONTO

Manch, 1944

RNAL

Army-Navy "E", awarded to

the Willard Storage Battery

Company, Cleveland Plant, for high achievement in the

production of war material.

Use postage-paid card inserted in this issue for free information on advertised products

designed for Aviation ...

meets Truck Industry's many needs



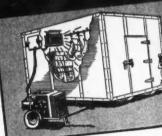
Pre-cooling of planes prior to take-off or during maintenance

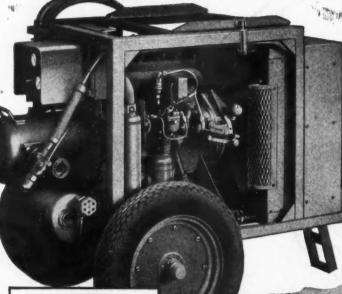


For refrigerated trucks and trailers . . . inner-body installation



For refrigerated trucks and trailers . . . under-body installation





When the Waukesha Unit is operating, its Mobile

OVER-ALL DIMENSIONS Condensing Unit, less wheels and tow pole: 27 in. high x 24 in. wide x 48 in. long.

SPACE COOLING HUMIDITY CONTROL REFRIGERATION n a single unit

Supplying refrigeration at low temper

der 60 lbs.) is easily moved by one man to most effective spot to be cooled. ature for perishables...or cool storage WAUKESHA portable REFRIGERATION

Designed for military and commercial planes and many other Aviation uses, the Waukesha Portable Refrigeration and Air

Cooling Unit has also been developed for use in the truck field.

It meets the needs for refrigerated trucks and trailers...either inner or under-body installation.

Condenser Unit is placed wherever convenient .. while Portable Evaporator (weighing un-

Readily and easily installed comes completely charged, all connections made, and ready for instant use.

This Waukesha Unit combines humidity control, refrigeration, and space cooling-all in a single unit. Its exceptional light weight, compactness, and mobility . . . its 1 to 3 ton refrigeration capacity . . . its automatic opera-

> tion...give it unusual flexibility for a wide variety of uses.

Completely self-contained, it consists of: (1) Portable or fixed Evaporator with automatic defroster for low temperature operation, connected with FLEXIBLE REFRIGERANT LINES to: (2) Mobile Condensing Unit with two-stage rotary compressor direct-connected to 4-cylinder liquidcooled engine. Write for details.



and AIR COOLING UNIT

ENGINE GENERATORS

Lightweight, liquid-cooled engine generator, 5-10 KW, 28½, 50, 110 volt DC or 6.3—9.4 KVA 110, 220, 440 volt AC. Air-borne models from 380 to 410 lbs.

PRIGERATION WAUKESHA MOTOR COMPANY WAUKESHA

tic

fe



NO...IT'S REALLY PH THAT DOES THE CLEANING!

but it won't work. Today, in your business and in ours, we know that it takes a "specific" to make a cure or get a job done right.

One Does The Work Best

In every processing and cleaning operation there is one specific chemical combination which precisely fills the requirements of a particular situation and will do the job best. The difference between this correct material and anything else — even the closest approximation—is extreme. Kelite sees it every day in reports from Service Engineers in the field. You can see it in the unequalled speed, certainty

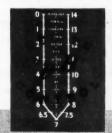
Manufacturing Plants in LOS ANGELES, CHICAGO, PERTH AMBOY, HOUSTON Branches in Principal Cities. and economy which the correct material makes possible.

pH Simplifies The Job

This matter of the right material for the job is so important that Kelite has gone to great lengths to attain it. Formerly, standardized test tubes of correct solutions were made up in the laboratory and used as models on the job. All this work was worth while, but it was slow...until we learned how to make use of pH. Now it's simple!

No Special Skill Needed

An operator does not have to be skilled to use Kelite pH Control. The pH values are lined up and compared in an easily-understandable form on the Kelite pH Chart. It's as easy to use as a yardstick! Your inquiry is invited.



Copyright 1944 Kelite Products, Inc. 909 East 60th Street Los Angeles 1, Calif.

*KELITEO

INDUSTRIAL CHEMICAL PROCESSES AND MATERIALS

for

on-

ap-

for

ted

TV

ing sor id-

ils.

ESHA DINSIN Donald M. Nelson, Chairman War Production Board, says:

"In this war, here's what happens to shoes

"In training camp, a soldier's shoes last 3 or 4 months; in Sicily, many troops wore out their shoes in 3 days!"

...and to trailers!"

"Recently, 2 of our divisions which had been engaged in jungle fighting had to be completely re-equipped. Among the thousands of items required were 1,471 vehicles and 592 trailers."

IN days, weeks, or months, the war "uses up" thousands upon thousands of trucks and trailers that would give good service for *years* on U. S. highways.

Multiply this almost unbelievable rate of use by the dozens of fighting fronts all over the world and you have the reason why motor transport at home has had to get along with too little equipment. Yet, with overtaxed equipment, too few parts, tires, and men, motor transport has done a wonderful job in keeping vital supplies moving all over this continent.

Relief Is At Hand Now!

Now, new Trailmobiles are being made again for civilian use!

Working under Government allocations recently issued, Trailmobile will make its complete allotment

of commercial trailers this year without any let-up in production on vital war equipment.

In this way, Trailmobile is reaching its goal to do everything possible to aid motor transport in the war zones and at home.

See your nearest distributor about new Trailmobiles now. Or write us.

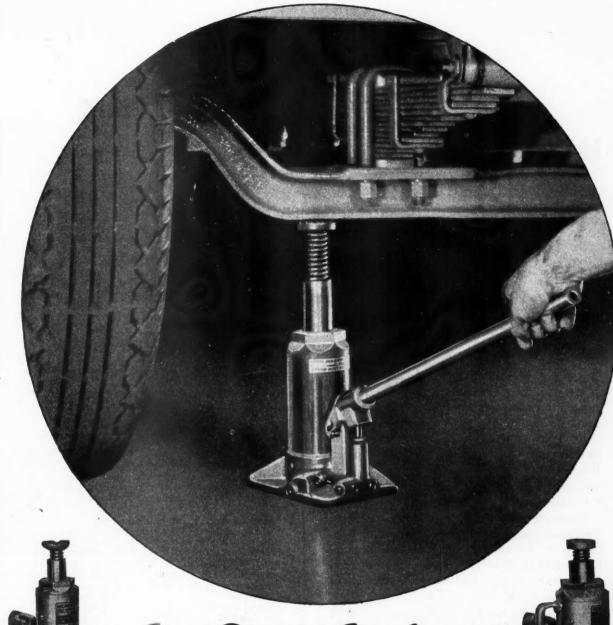
The Trailer Company of America
Cincinnati 9, Ohio - - - Berkeley 2, California

Trailmobile Service Centers Can Help... keep your old equipment rolling, too. Located at strategic points to serve your needs. Write for the Trailmobile service locations nearest you.



IRAILMOBILE

Commercial Trailers for War and Peace . . . The Vital Link in Flexible Transportation



Super-Powerful...Easy Operating

HEIN-WERNER HYDRAULIC JACKS

Made in models of 3, 5, 8, 12, 20 and 30 tons capacity.

For details and latest prices, ask your H-W jobber, or write us
HEIN-WERNER MOTOR PARTS CORP.
WAUKESHA, WISCONSIN

HEIN-WERNER
HYDRAULIC JACKS
Are Built Right and Priced Right



20 Tons



in

ort

iles

rnia

ion

HE'S ON THE SPOT



Yes, this worker is really on the spot with his fellow employees. Because of his own carelessness in the failure to use proper safety precautions, he has broken the "no accident" record of his department. He has not only injured himself, but he may cause the loss of vital productive time from the job on hand.

The prevention of costly industrial accidents is the function of "Your Partner in Safety," the safety engineering service of American Auto. Safety engineering "In the American Auto Manner" is more than just inspection. It is a scientific, continuing service of accident hazard analysis based on the extensive experience of experts in this important field.

American Auto safety plans are practical and flexible. No rigid formula is ever used, but specific ideas are initiated for the solution of each individual problem as it may arise. It is a precision, "hand tooled" safety service available only to clients of *American Auto* Agents and Brokers.

In the American Auto Manner

To the buyer of insurance the competent advice and personal services of an accredited Agent or Broker are considerations of paramount importance.

The accredited Agent or Broker counts it his first responsibility to determine that the insurance company he represents can and will faithfully discharge its policy obligations promptly, fairly, and cheerfully at all times.

American Auto is represented by accredited Agents and Brokers throughout the United States and Canada because it has the stability of position, the character of personnel, and a record of performance which commend its protective services to insurance men and insurance buyers everywhere.

"Your Partner in Safety"



NATIONWIDE BRANCH OFFICE FACILITIES

Atlanta • Baltimore • Boston • Chicago • Cincinnati • Cleveland • Detroit • Indianapolis • Kansas City • Los Angeles Milwaukee • Minneapolis • New Orleans • New York • Philadelphia • Pittsburgh • Portland • St. Louis • San Francisco • Seattle

BROADEST FORM COMPREHENSIVE CONTRACTS - AUTOMOBILE AND GENERAL CASUALTY



- Maintenance Superintendents
- Design Engineers
- Purchasing Agents

test this new SPARTON HORN

20D-15 SPARTON WATERPROOF WARNING SIGNALS BUILT EXCLUSIVELY BY SPARTON... Designed and built for motor transport and combat vehicles. This new waterproof horn has proven superior in comparative tests against all other types. Delivers a distinctive penetrating tone with plenty of volume, producing approximately 120 decibels. Easy to install. Can be mounted on fender, motor cab, running board, engine or dash. Has four oversize drain slots and heavy screen. Operates with efficiency in slush, mud or sand. Equipped with two outside terminals for two wire system. Finished in black enamel. 6, 12, 24 volt. Height 65% in.; width 51/4 in.; weight 31/4 lbs. Varied types of installation brackets available or custom made.

When ordering specify L-158 for replacement. If for Heavy Motor Trucks, Buses, Truck Trailers or Motorized Fire Equipment or off the highway Motor Vehicles please so indicate, as replacements for these vehicles permit AA-1 rating.

Desirable for highway road construction equipment. Bulldozers, tractors and other type of motorized road machinery.

For additional information, or for helpful planning on postwar signal requirements, our Engineering Department will gladly cooperate. Write

THE SPARKS-WITHINGTON COMPANY PLANT NUMBER 1 JACKSON, MICHIGAN

Makers of Automotive, Marine, Aviation, Industrial Warning Signals Since 1910 — and Sparton, radio's richest voice since 1926.



116 SPARTON FLEET SPECIAL—Extra quality Sparton replacement horn. Rugged mechanism. In black enamel. Complete with engine brackets. 6 or 12 volts. Dimensions: width 51/8 in.; length 12 in.; weight 33/4 lbs.

20D-15

142 SPARTON HEAVY DUTY S.O.S. for Trucks, Buses, Trolley Cars—Sturdily built for heavy service, and for use where mounting space is limited. Large six-inch diaphrag m produces deep throated distinctive tone. Black enamel finish. 6 volt. Dimensions: length 11 in.; width 61/4 in.; height 10 in.; weight 63/4 lbs.

118 SPARTON HEAVY DUTY S.O.S. Same as No. 142 except with straight projector. Length 145/8 inches.

RNAL

PILLSBURY FLOUR MILLS COMPANY

GENERAL OFFICES MINNEAPOLIS, MINN.

May 12, 1943

W. E. Lahr Company, 30 South 10th Street, Minneapolis, Minn.

Dear Sirs:

The problem of maintaining our fleet operation of 537 wehicles in this day and age is quite a chore for all concerned. Therefore, it becomes increasingly important to depend on quality merchandise.

With this thought in mind, we wish to advise you that Delco Batteries are proving to be very serviceable from every

Ours is a big job in normal times but with the spirit of conservation of materials in full swing there is every conservation of materials in full swing there is every reason for us to be more appreciative of your long life Delco Batteries than ever before. After seven years of use of Delco Batteries and a careful check of our mainteuse of Deigo Datteries and a careful check of our mainte-nance upkeep records we felt your Company would appreciate our reaction to Delco Batteries.

Very truly yours,

Geo. Kiefferiih



FOR FREE BOOKLET



UNITED MOTORS SERVICE, DEPT. DR 3 GENERAL MOTORS BUILDING DETROIT 2. MICHIGAN

Please send to the address below, a copy of "Delco for the Long Haul," containing Delco battery applications for all makes and types of equipment.

State

very serviceable from every angle

writes a fleet user of

BATTER

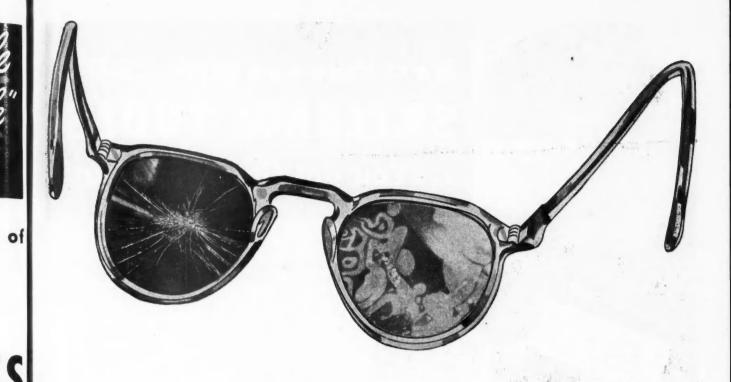
Year after year, Delco batteries win praise for their rugged, day in, day out dependability. They are built tough for tough service, and are available in sizes and types to meet every need-including special Diesel types for Diesel cranking. Whether your fleet is large or small, you'll find Delco batteries are the wise choice for your fleet vehicles.

FOR VICTORY BUY U. S. WAR BONDS



Delco heavy-duty batteries for trucks, buses and other commercial vehicles are sold through independent dis-tributors and United Motors Service branches located in all parts of the country.

WHEREVER WHEELS TURN OR PROPELLERS SPIN



How safely could your men drive with glasses like these?

Good visibility is a first essential in good driving.

That points to the importance of replacing discolored or cracked windshields, windows or

back lights in your trucks or buses with L·O·F Clear Vision Hi-Test Safety Plate Glass.

day They vice,

and

-in-

for

your

find

wise

S

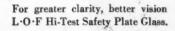
atteries
d other
are sold
at disMotors
ated in

DURNAL

Compare the task of squinting through a discolored or cracked windshield with watching the road through clear glass. And remember, the better driving that better vision affords, is just that much extra protection for your valuable equipment and loads.

If you do your own replacement work, be sure that you have an ample supply of the more fre-

quently needed sizes and shapes. Your regular Libbey Owens Ford Distributor will help you keep your stock up to date. If you send your glazing work out, select a shop that uses genuine L·O·F Hi-Test Safety Plate Glass. Libbey Owens Ford Glass Company, 4634 Nicholas Building, Toledo 3, Ohio.









LIBBEY · OWENS · FORD

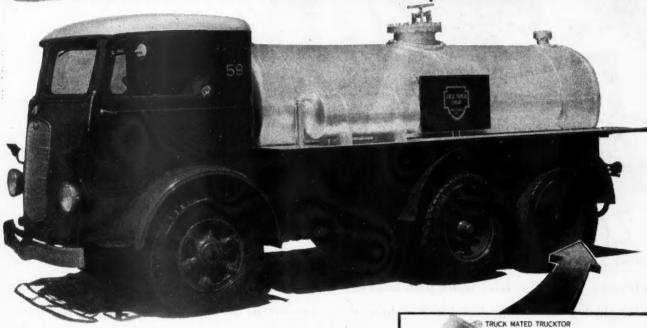
A GREAT NAME IN







CONSERVATION CONSERVATION!

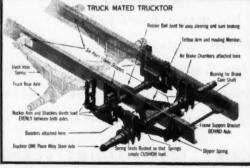


Fleet owners acclaim the Trucktor conversion as one of transportation's most potent conservation measures. And government officials, too. For when a Trucktor Third Axle converts a four-wheeler into a six-wheeler and doubles its capacity—a new truck is saved. The extra driver is released for other essential work. So are the construction materials as well as the gas, oil and rubber. Naturally, it is easier to obtain approval for a Trucktor application.

Trucktor's savings aren't the government's alone. They're the owner's, too. He gains an edge on competition because he pays less to haul more. His insurance rates are lower than for an equally rated multi-unit vehicle. His truck will last longer, as government road impact tests indicate. And he will find himself agreeing with the Army that six-wheelers are more maneuverable.

You owe it to yourself to learn the complete facts about a Trucktor conversion and how to apply for a Certificate of Transfer (Form PD 321). Write today.

THE TRUCKTOR CORPORATION, 156 Wilson Ave., Newark 5, N. J.



Trucktored Trucks Ride Easier, Last Longer Because Both Rear Axles Get Full Springing

Ordinary third axles make one rear spring do the work of two. But the Trucktor Third Axle has its own husky, completely engineered, spring with rubber seats and "slippers" Learn now about Trucktor's many exclusive features.





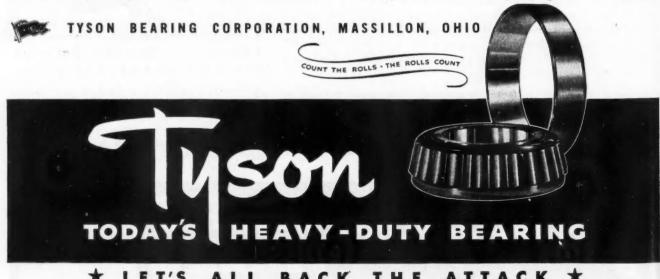


CHANGE

ONE REASON why moderns wear fewer clothes is because they must move faster than folks did in the old days. The tempo of things has changed.

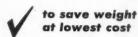
But changes haven't all been a matter of subtraction. In the case of tapered roller bearings, a new, faster-moving age called for addition—addition of rollers to stand heavier loads and shocks. Tyson Heavy-Duty Bearings answer that need. Tyson actually added thirty percent more rollers, on the average, size for size! This single improvement has virtually doubled bearing life for Tyson users. For every heavy-duty job, Tyson "All-Rolls" Bearings are the most advanced ... toughest ... longest lived.

The big name in bearings today is . . . TYSON!



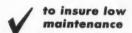
GOOD NEWS FOR BUILDERS AND USERS OF MOTOR TRANSPORT EQUIPMENT

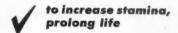
COR-TEN is on the way back!



IIn.







Facts to remember about U.S.S COR-TEN

U.S.S COR-TEN is not only amazingly strong—its yield point of 50,000 lbs. per sq. in. min. is 1½ times that of plain structural steel—but its resistance to fatigue is 66.6% greater. Its endurance limit—resistance to permanent set—is more than twice that of non-ferrous "light" metals. It has 1/3 greater resistance to abrasion than mild steel. COR-TEN, too, has high corrosion resistance—4 to 6 times that of plain steel, 2 to 4 times that of copper steel. COR-TEN possesses good forming and welding properties—fabricates and repairs easily.

You pay no premium for the extended.

You pay no premium for the extra advantages Cor-Ten construction offers. When used as an integral factor in lightweight design, Cor-Ten will cut deadweight hundreds of pounds with little or no increase in cost.

FOR the past two years, U·S·S COR-TEN has been unavailable for the construction of buses, trucks, tractors and trailers, except for military use.

But it has been indicated that this year Cor-Ten will again be available in increasing quantities for the construction and repair of such equipment for approved civilian service.

It is on its record of proved performance—which no other high-strength steel can equal—that COR-TEN deserves your first consideration.

In thousands of buses, trucks and trailers produced by America's foremost builders before the war, Cor-Ten has been doing a whale of a job. Those trucks and trailers are today busy on every highway hauling bonus loads of badly needed supplies, COR-TEN-built buses are carrying more passengers, using less gasoline, wearing out fewer tires, and staying longer in service. Why? Simply because Cor-Ten, in addition to its ability to reduce weight economically, adds an extra margin of strength and stamina that keeps equipment rolling.

Now that Cor-Ten is on the way back-plan to use it again to make your equipment lighter, stronger, longer lasting, more productive and more economical to operate. The important thing is that you file your requirements with the proper authorities—and send us your inquiries NOW. We will be glad to give you all the facts that will assist you in applying Cor-Ten most efficiently.

AMERICAN STEEL & WIRE COMPANY, Cleveland, Chicago and New York
CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh and Chicago
COLUMBIA STEEL COMPANY, San Francisco NATIONAL TUBE COMPANY, Pittsburgh

TENNESSEE COAL, IRON & RAILROAD COMPANY, Birmingham United States Steel Supply Company, Chicago, Warehouse Distributors
United States Steel Export Company, New York





INDIANA

STUDEBAKER

ILLIONS OF MILES

at Low Cost

ZOLLNER DEPENDABLE PERFORMANCE CUTS FLEET OPERATION COSTS



















FEDERAL

HERCULES ENCINES KERMATH



LOST of America's best known fleets are running on Zollner Pistons. Fleet owners, everywhere, know by experience that Zollner equipment delivers the maximum in performance -at lowest maintenance cost. Millions on millions of miles—year after year-add to the established service record of Zollner unequaled dependability. Back of every Zollner Piston is this proven engineering leadership -your assurance that for any piston job your choice of Zollner equipment means highest efficiency and greatest economy, always.



ZOLLNER MACHINE WORKS, FT. WAYNE, INDIANA

Gasoline Engines — Carbureted Oil Engines — Solid Injection Spark Ignition Engines — Diesel Engines



YOU'RE READY FOR ANY MAINTENANCE JOB WITH WALTER SNOW FIGHTERS

"The March wind doth blow and we shall have snow", says the poet. Yes — and rain, and thaws, and floods — for March is a tough month on highway maintenance.

But these tough maintenance jobs are "right down the alley" for Walter Snow Fighters. The unfailing four-wheel power-plus-traction provided by Walter Four-Point Positive Drive is unmatched for ramming heavy snowdrifts — freeing pavements of hard-packed snow and ice — scraping dirt and gravel roads after

rainstorms — or pulling heavy loads through snow, mud, sand, ruts, or up stiff grades, without bogging down, slipping or stalling.

Yes, there's no "off-season" for these rugged, powerful units. Wherever running conditions are at their worst, you'll find Walter Snow Fighters performing at their best. Write for full details.

WALTER MOTOR TRUCK COMPANY
1001-19 IRVING AVE., RIDGEWOOD 27, QUEENS, L. I., N. Y.



by

nt

il-

er

ce

d-

on

ip

on



Fire cannot burn without air. With swift efficient action GD/709 completely surrounds fire with a blanket of carbon dioxide. Air is sealed out.

(2)/709 is especially recommended for oil, gasoline, electrical, or chemical fires. Built by General Detroit, manufacturers of fire protection equipment since 1905, (2)/709 comes from a distinguished line of fire fighters, including such famous names as Fire Guard, Alaskan, and Floafome. Like all General products, it is quality mass produced for prompt delivery to essential users.

Find out about 62/709 today! Mail the coupon and details will be rushed!

THE GENERAL DETROIT CORP.

Former Name The General Fire Truck Corp.

NEW YORK

RK DETROIT C

CHICAGO

st Coast Affiliate: The General Pacific p., Seattle, Los Angeles, San Francisco.

2206 E	ast Jeffer	son Ave.	., Detroit	7, Mich.
SPEED	complete	details	to:	
Name_				

Just attach this convenient coupon to your letterhead and mail.



SIX MONTHS OF MANPOWER TRAINING

(CONTINUED FROM PAGE 148)

comes coupling and uncoupling of the trailer, driving a tractor with trailer attached, right and left turns, proper braking and backing up into a loading dock. The trainees also are shown the elementary principles of air, booster and mechanical brakes, booster steering equipment, tire care, engine idling and electrical equipment. Emergency breakdown procedure and proper distribution of loads also are demonstrated.

Merritt and Smith handle the outdoor instruction and demonstrations, Smith alternating with Lt. Cross as a member of the school staff, each being on the job three days a week. Lt. Cross conducts classes in local and state traffic laws, I.C.C. rules and regulations, and safety procedure on the road. He also gives a four-hour first aid course, stressing roadside treatment of injuries and artificial respiration. Merritt gives classroom instruction in schedules and routes, interpretation of company manuals, conservation and care of equipment, and proper preparation of log and mileage books; the latter appears to be the most difficult for the trainees to grasp. Classroom reviews and written and oral tests also are given

(TURN TO PAGE 188, PLEASE)

THE COMPLETE LINE THAT COMPLETELY SATISFIES



THE FITZGERALD MFG. CO., TORRINGTON, CONN.

FITZGERALD GASKETS





HEN an Army tank comes a cropper, as this one did, somewhere on the invasion front, it's a job for M-type heavy wreckers, specially designed for tank recovery. Weighing fifteen tons, with power delivered to all ten wheels, armed with hoist, power winches and special gear, these big fellows command the situation.

When our present job, producing wreckers like these for Uncle Sam is finished, you may well want similar trucks for the tough jobs in your civilian business. Many will. Or you may be thinking in terms of over-the-road tractors, heavy duty trucks, dump trucks, plows, fire apparatus, or other motorized equipment engineered to the particular work it is to do. One thing is sure . . . if it's Ward LaFrance, it will be right for its job. Our engineers are ready to start working with you now.



1944 G. A. I., Inc., Meriden, Conn.

ocal

and

our side

cial

om tes,

als,

ent, and

to

nees

ven



(CONTINUED FROM PAGE 186)

to keep the student drivers on their toes, and insure a better understanding of the subjects covered.

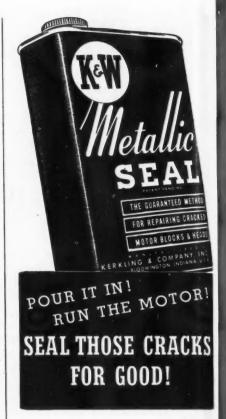
Visual education is employed through the medium of educational motion pictures, which are shown three days a week, each such session lasting 30 to 45 minutes. Films shown include "The Skill Behind the Man," "The Man Behind the Wheel," Fruehauf Trailer Co. presentations designed to promote better driving; "Before the Doctor Comes," a Red Cross first aid film; "If It Happens," showing what to do in case of an accident; and "Defensive Driving," a driver education film.

Two representatives of insurance companies alternate once a week in giving 30-minute talks on the importance of highway safety. They also demonstrate how to fill out an accident report properly. One school trainee who had the misfortune to have an accident shortly after completing his course filled out an accident report that the truck line official described as a model for accuracy and completeness.

Size of the driver classes has ranged from six to 24 men, but Merritt regards eight men as the ideal size for a class. With that number, each man can be given enough individual attention, and, in the outdoor classes, too many men are not standing around part of the time with nothing to do. Trainees have ranged in age from 17 to 50 years, with the average about 30.

When the course first was begun in July, 1943, about half the applicants had 4-F draft classifications and the other half were 3-A fathers who wanted to get into essential jobs. With fathers now being drafted, there is at present a preponderance of 4-F men in the class. About half the trainees have been married men. Six discharged servicemen also have taken the course, including one man who saw action on Guadalcanal and another who was a paratroper. These men completed the course successfully but several did not turn out well as truck drivers because they were suffering from a nervous condition that made them unstable on the road. They were not emotionally qualified for over-the-road driving and sought jobs elsewhere.

Several fleet operators feel that (TURN TO PAGE 190, PLEASE)



■ K & W Metallic Seal is unlike anything you have ever used, and so effective that one application through the radiator will repair all but the most seriously damaged motors.

And it is absolutely safe! There's no risk of injury to metal, cooling system, hose or thermostats. K&W Metallic Seal contains no acids, leaves no sediment, and will not flush out!

Hundreds of fleet operators, mechanics, and motor rebuilders are saving time and money with this reliable repair method. They have tested and proved it in thousands of gasoline and Diesel motors. Follow their example. Keep a supply on hand for winter emergencies.

For Major Repairs Use the K&W Mechanical Method

If the motor is too seriously damaged to be restored with K&W Metallic Seal, the safest way out is a K&W Mechanical Repair. This service is guaranteed for the life of the motor, and is available in most localities through K&W Jobbers. K&W Mechanical Method is used and approved by leading motor manufacturers, rebuilders and large fleet operators.

NOTE: Operators who maintain their own shops can obtain a license to make their own repairs under K & W patents. Ask your jobber or write direct for details.

KERKLING & COMPANY

RICOMINGTON, INDIANA

West Coast Office and Repair Station 6516 Selma Ave., Hollywood 28, California

WORCESTER, MASSACHUSETTS



Leaders In The Field For Over 18 Years!

Chromalloy or Standard Valve Seat Rings available to fit all makes of cars, trucks, and tractors. Write for Bulletin VSR41— CCJ.

Valve Insert Tools to service all makes of cars, trucks, and tractors. Write for Bulletin R40— CCJ.

HEAD

R!

KS

effech the most s no stem,

Seal ment, chanaving epair roved Diesel eep a acces.

sed to Seal, channteed

Jobused

fleet

r own

obber

tion

ifornia

DURNAL





K. O. LEE COMPANY
ABERDEEN SOUTH DAKOTA

up to 75% on TIME, LABOR and ABRASIVES





RECIPROCATING ELECTRIC SANDER

The fast straight-line reciprocating action of the EASY Sander mechanically duplicates the approved back-and-forth motion of hand finishing. Fleets and paint shops report the "EASY" indispensable for sanding, rubbing, scuffing, feather-edging and removing lettering. Conserves labor, one inexperienced operator (handyman or woman) will do more and better work than three workers by old fashioned hand method.

WRITE for literature and ask us or your jobber for a FREE demonstration.

DETROIT SURFACING MACHINE CO.

WATERPROOF

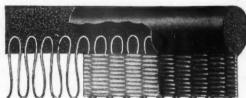
WEATHER

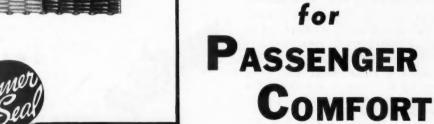
STRIPPING

7444 W. Davison

Detroit 4, Michigan

INNER-SEAL





Established 1837

BRIDGEPORT FABRICS, INC.

BRIDGEPORT

CONN.

UPHOLSTERY CLOTH . NARROW FABRICS . ELASTIC WEBBING

MARCH, 1944

Use postage-paid card inserted in this issue for free information on advertised products





2612 McCASLAND AVENUE

(CONTINUED FROM PAGE 188)

many of their older drivers would benefit from the course, especially the classroom instruction on safety and reports, and the proper spacing of emergency breakdown equipment. But they realize it would be difficult to enroll these drivers in the course because the latter do not want to admit there is anything about highway driving that they don't know.

Another drawback of the school is the fact that the trainees are given no actual driving experience in traffic. Their driving must be confined to the lot where the training center is located. Liability of the trainee himself and the sponsoring company, and possible damage, in case of an accident, to the equipment that has been loaned to the school, have proved complicating factors in any effort to give the men an opportunity to drive under actual operating conditions on the city streets or on the highway.

Drivers do not have to be enrolled as members of the AFL Teamsters' Union while attending the school. Thus, a sponsoring company has no assurance that a trainee will drive for that company when he completes the course. However, to provide some guarantee, a company may withhold part of the training pay of a trainee until he has actually started work for the operator which sponsored him. This helps avert situations, such as that early in the history of the school, when a Kentucky migrant went through the school at the expense of a sponsoring company, then skipped his waiting job to work for another company.

The drivers' school has had to suspend three times due to lack of trainees. The last suspension, Jan. 1, is still in effect. A minimum of six trainees are required by the Detroit

(TURN TO PAGE 192, PLEASE)

NEW LOW COST DRILL GRINDER

T & H MFG. CO. 811-N East 31st K. C., Mo.



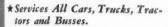
MA

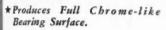
DUAL SPIRAL REAMER FOR FASTER, EASIER, BETTER

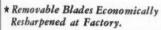
1-PIN FITS
2-ALIGNMENT JOBS*

Piston pin holes can now be finish-reamed, mirrorsmooth without *honing!* Just 2 Evans expansion reamers do the work of 30 ordinary reamers. Locked-in removable spiral blades shear in opposite directions simultaneously. .035" to .080" straight line expansion.

*7" to 11" pilot extensions for aligning widely spaced bushings such as King bolts, steering knuckles, water pumps, shafts, etc.







WRITE FOR CATALOG TO



uld ally

fety.

eing ent.

cult

adway

l is

ven

raf-

ned

r is

any,

has

lave

any

nity

con-

the

lled

ters'

ool.

no

rive letes

wide may y of arted

ponitua-

his-

ucky ol at

job

sus-

n. 1,

troit

ER

URNAL

REAMER AND MACHINE CO. 526 SOUTH MAIN STREET NEW LEXINGTON, OHIO

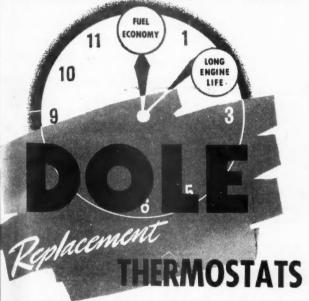
Established 1918





THE H. M. SAWYER & SON COMPANY
East Cambridge, Massachusetts

fThere Ever Was a Time—It's Now!



Motor temperature control was a good idea back in 1940 when there was plenty of gas and oil. Now, there's a gasoline shortage—engine parts are hard to get—there's plenty of cold weather in sight—and you're still using the same trucks! Probably your automotive jobber can now get some Dole Thermostats, Ask him.

HE DOLE VALVE COMPANY 1901-41 Carroll Avenue, Chicago 12, Illinois

EPRESENTATIVES IN ALL PRINCIPAL CITIES



CAN'T HARM MORSE MORFLEX COUPLINGS

... they require no lubrication—and resist shock and vibration because resilient rubber trunnion blocks are assembled under pressure in the center unit. Single and double Morflex Couplings and Morflex Universal Drive Shafts are designed to meet the requirements of any installation.



MORSE CHAIN COMPANY

A Borg-Warner Industry
Detroit 10, Michigan Ithaca, New York

MORSE COUPLINGS and DRIVE SHAFTS



Mode by

Hollingshead

LEADER IN MAINTENANCE CHEMICALS



AUSTIN



THE ACCEPTED STANDARD . . . A complete line of LANDING GEARS HORIZONTAL, VERTICAL and FOLDING TYPES

Write for complete information on "SAFETY PROPS" and FIFTH WHEELS

TRAILER EQUIPMENT COMPANY MUSKEGON MICHIGAN

BALDOR

BATTERY CHARGERS

Improved ventilation for cool operation, longer life and greater efficiency. They stand the strain of peak loads and gre



Price, sea bulb, \$28.00

BALDOR ELECTRIC CO.
4340 Duncan Ave.,
ST. LOUIS 10, Mg.

fully guaranteed.

For Longer Compressor Life!
Write For Your Free Copy
of the New CURTIS
MAINTENANCE CHECK-CHART



Gurtis Pnoumatic Machinery Division of Curtis Manufacturing Company 1970 Kienlen Avenue St. Louis, Missouri



(CONTINUED FROM PAGE 190)
Board of Education for the school to operate.

The school for training automobile mechanic apprentices and emergency repair specialists, also sponsored by the truck line association and the AFL Machinists' Union, has not been a success. Like the drivers' school, this has been financed by the Detroit Board of Education's vocational training program for war production workers. The mechanics' school opened in July and ran for five months until it was suspended in mid-December for lack of trainees. Two four-hour sessions were held from 6.30 to 10.30 p. m. each Monday and Wednesday night at Cass Technical High School in downtown Detroit.

The mechanics' school was designed to give apprentices necessary training to become all-around mechanics and to qualify emergency specialists for certain phases of truck maintenance, such as transmission and clutch, rear axles and differentials, motor tune-up, lubrication, and tire service and repair. Enrollment fluctuated between two and 12 men. It numbered six men the week before the school closed. These were three truck drivers, a shipping clerk, a pipefitter and a shop helper. Trainees drew their regular straight-time rates while attending this school. Instructor for most of the course was the

(TURN TO PAGE 194, PLEASE)



SHATTERPROOF BRIGHT BEAM Plastic LENSES by Bowman

Have glass like transparency—will not fade—are made in two colors red and amber and are weatherproof. The most ECONOMICAL lens you can buy. Ask your Jobber or order direct.

BOWMAN AUTOMOTIVE PLASTICS CO. 4316 W. 192nd Street, Cleveland 16, Ohio

Specify

Claw Double-Duty TRUCK CHAINS

Columbus McKinnon Chain corporation

AMERICAN BOSCH

AVIATION & AUTOMOTIVE ELECTRICAL PRODUCTS FUEL INJECTION EQUIPMENT

American Bosch Corporation Springfield, Mass.





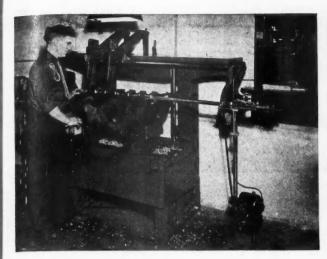
Wiry Joe

Wire and Cable Pawtucket, R. I.



BURNED TRUCKS CAN'T HAUL WAR TRAFFIC!

AMERICAN SAFETY TANK CO.



Size Is No Obstacle For The TOBIN-ARP Line Boring Machine

It handles everything up to and including the R. D. 8 Caterpillar. The design and construction of this machine assures perfect alignment and mirror finished bearings in boring main and camshaft bearings. Above is shown Waukesha motor whose seven main bearings are being line bored—a job easily and accurately performed. Write for complete details.

TOBIN-ARP MFG. CO.

2845 Harriet Ave. S.

ROOF EAM NSES

an

CS CO. 6, Ohio

S

nain

N

tion

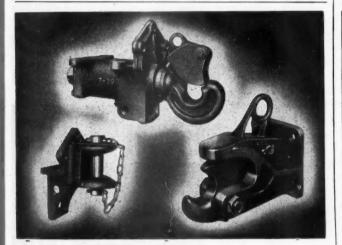
E

3

able

OURNAL

Minneapolis 8, Minn.



NEW Double Acting Pintle Hooks
Automatic Industrial Couplers
Solid Couplers for Trucks & Trailers

Write for detailed specifications of the complete Holland line.

All types for all purposes—engineered for smooth, efficient performance, with many special features that make the Holland line preferred by experienced truck and trailer fleet operators. Whatever your needs in pintle hooks, couplers, bars, or hitches, come to Holland with your problem;—you'll find the right product for the right spot. Made by the makers of Famous Holland fifth wheels and landing gears.







They're Good

THE G&O MANUFACTURING CO.
NEW HAVEN CONNECTICUT



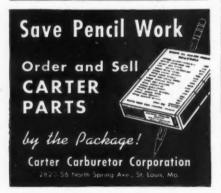
Fulton Electric Sleet-Frost Shields and rubber-bladed Defrosting Fans are on duty today on thousands of trucks and cars, in many lands . . . providing clear-vision driving safety regardless of weather. This, too, is an important war





Fultan Flectric Steet-Frost Shield We made 'em before . . . and we'll make 'em again . . . when Victory is won.

THE FULTON COMPANY
1912 So. 82nd St., Milwaukee, Wis.





For a Smooth, Safe Ride at Lower Cost. use

Hydrau-Matic Shock Eliminators

The Cleveland Pneumatic Tool Co. Cleveland, Ohio



(CONTINUED FROM PAGE 192)

head of the repair shop at the White Motor Co. Detroit Branch. He was succeeded by another veteran mechanic towards the close.

Several reasons are given for the failure of the school to attract trainees and fill the function for which it was intended. Truck line mechanics and shop workers have been working a 54 to 60-hour week, due to the manpower shortage, so they have little time, enthusiasm or incentive to attend the school to improve their positions. Some maintain that the men in the truck line shops have not been sold on the value of the training course. However, the big need today is for all-around mechanics, and they cannot be trained over a period of weeks or even months. Many truck fleet shops are not big enough to warrant the training of job specialists. And shop apprentices are virtually non-existent because most youths of that age who are not in the Army are working at lucrative jobs in war plants.

Some of the equipment in the school shop is antiquated, and many of the tools are for servicing passenger cars and unsuited to truck maintenance. The largest socket wrench is a 11/8-inch size, which would not fit the usual truck transmission. One transmission in the shop was torn

(TURN TO PAGE 196, PLEASE)

DEVILBISS

-Canopy Exhaust Systems Exhaust Fans—Air Compressors
Hose and Hose Connections— Oil Guns.

Write for catalog

THE DEVILBISS COMPANY TOLEDO, OHIO

Distributors or direct sales and service re sentatives available everywhers.

UNITS AVAILABLE

19842 W. Eight Mile Rd. Detroit, Michigan

CLEAN FAST-CLEAN WELL!

Use Magnus Methods and Materials to clean fast and well and insure a really effective preventive maintenance program.

MAGNUS CHEMICAL COMPANY 38 South Avenue, Garwood, N. J.



THE ORIGINAL OIL CLAROFIER

DESIGNED ESPECIALLY FOR HEAVY-DUTY FLEET WORK

W.G.B. OIL CLARIFIER, INC. KINGSTON, N.Y.

GREAT NAME IN

* BRAKE

* ENGINE

* CLUTCH

MAINTENANCE EQUIPMENT



- TIRES NOW IN CRITICAL PERIOD -



LL! lateand ven-

ERIALS

IER

IC.

CH

Do you know that in 1944 there will not be nearly enough new truck tires to go around? This means that you must get every ounce of wear from your present tires. Tire conservation must now become your personal job if you are going to "keep 'em rolling." Let us help you. With an Everhot Branding Iron and the Everhot Tire Record System you can know at all times the condition of each tire in your fleet. Put your own code number or the serial number on both sides of each tire and considerably reduce your inspection costs.

Priced at only \$35.00 f.o.b. — Maywood, Illinois

Everhot MFG. CO., Maywood, III.









MOTOR TRUCKS SINCE 1907

PIONEERS OF THE INDUSTRY

Quality Builders of Heavy Duty Gasoline and Diesel Powered Motor Trucks for On and Off the Highway Service

STERLING MOTORS CORPORATION

MILWAUKEE, WISCONSIN



LINK-BELT

BEARING FAILURES!



ROLLER BEARINGS

Assure free rolling performance and long life service under today's severe conditions. Extra load capacity and self alignment , are inherent features.

> Made by makers of the famous Link-Belt Silverstreak Silent Timing Chain.

LINK-BELT COMPANY 519 N. Holmes Ave., Indianapolis, Ind. Warehouses in all principal trading centers



VALLEY CHARGERS HAVE Gone To War



For the Duration . . we will not be able to supply Valley Chargers to our many eutomers and prospects because our war production demands, ethewise, take up our entire far lities.

We . . when we can again aple, efficient and economical



VALLEY ELECTRIC CORP.
4221 Forest Park Blvd., St. Louis, Ma.

THALER

- KARBOUT

Keep engines fit—reduce shop servicing.

"HOT PATCHES"

The safest tube repairs, — con-serve rubber.

Nationally Distributed

THE SHALER COMPANY Waupun, Wisconsin and Toronto, Canada

(CONTINUED FROM PAGE 194)

down with a cold chisel and hammer because adequate tools were not available. Truck engines, rear axles and transmissions were loaned to the school by Detroit manufacturers but lack of specialized tools hampered the trainees in disassembling and assembling them.

END

(Please resume your reading on P. 44)

HIGHWAYS—FOR POST-WAR PROSPERITY

(CONTINUED FROM PAGE 55)

Remedy Is at Hand

Fortunately, the remedy is at hand. It will cost money to do it. But the money is at hand to do it or should be if your special motor vehicle taxes are being conserved for the purpose-which was the reason that you voted them in the first place. As General Fleming has aptly put it, the highway program is not a postwar program but a postponed program.

With special motor vehicle revenues already past the two billion dollar mark for the country as a whole, it doesn't take much foresight to say that concentration of this fund on needed highways, spaced out over a period of time reasonably related to the life of the road, not only should pay the motor vehicle owner's share of the cost of the improvement, but should render possible a reduction in the tax rate per vehicle as the volume increases.

And meanwhile, the driver will be able to get to his store, to his place of business, to the movie, to his home or office, at a saving in cost of operation, of time, of human lives, which in itself will more than (TURN TO PAGE 198, PLEASE)

For Engine Bearings Clutch Plates & Parts King Bolt Sets Monmouth is the name

AHLBERG GROUND BEARINGS

SAVE STEEL. are GUARANTEED and COST LESS!

Ask Your Jobber or Write U. AHLBERG BEARING COMPANY 3006 WEST 47th STREET, CHICAGO, ILL

HEAVY DUTY MOTOR TRUCKS

AND

GASOLINE ELECTRIC GENERATING SETS

DUPLEX TRUCK COMPANY

Lansing, Michigan



ASK YOUR GATKE JOBBER GATKE CORPORATION 228 N. LaSalle, CHICAGO

> KEEP YOUR **VEHICLES MOVING ECONOMICALLY**

> > with

VALVE SERVICING EQUIPMENT

Ask Your Jobber or write

THE HALL MFG. CO. TOLEDO, OHIO



LISLE CORPORATION, Box 1017, Clarinda, lows

VALVOLINE "X-18" Gear Lube

For ALL Automotive Gears All Purpose

VALVOLINE OIL COMPANY
580 East Fifth Street, Cincinnati, Ohio - Refinery in Pennsylvania



Y

AGO

ALMETAL Joints for Industrial and Automotive applications are helping to produce essential material and move wartime loads.

THE ALMETAL UNIVERSAL JOINT CO.
1555 EAST 55th STREET • CLEVELAND 3, OHIO

The Post Office Requests

—that you include your Postal Zone Number in the signature of all your advertisements, if you are in a city or town that has been zoned.

This will help speed delivery of inquiries addressed to you from the readers of-

COMMERCIAL CAR JOURNAL

A CHILTON Publication

Chestnut & 56th Sts. D Philadelphia 39, Pa.

MILLIONS OF MILLIONS OF CARS and TRUCKS have been SERVICED with TESTING UNITS



The name "KING" has stood for quality in Motor and Ignition Testing Equipment for many years. The "KING" Line was one of the pioneers and we developed many of the basic features used today in locating and correcting motor and ignition troubles. We are still developing and have new features that will be embodied in "KING" Testing Units. At the present time our production is mostly for the Armed Forces. We are able to supply a limited number (within our quota) of certain units to those having the required priorities. You may ask your Jobber for available items.

Ask Your Jobber or Write Us

The ELECTRIC HEAT CONTROL Co. 9127 INMAN AVENUE • CLEVELAND 5, OHIO GOOD "KING" PRODUCTS SINCE 1914





WHITEHEAD STAMPING CO.

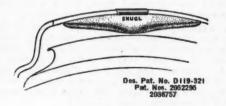
EST. 190

1685 W. Lafayette Blyd., Detroit 16, Mich.

Save your TIRES to SAVE YOUR BUSINESS

Mr. Operator, when the tires you are now using are worn out, no matter how essential you think your work is, you may not be able to get new tires. In 1944 there just aren't going to be enough new tires to go around. Tire conservation must have your personal consideration, you must get every last mile out of each tire you own.

To help accomplish this many wise



See your Jobber or write direct

operators are balancing each wheel at each inspection with "SNUGL" balance weights—the weights the Government uses. "SNUGLS," the weights with the dove-tail clip and bull-dog grip, are streamlined to make dynamic balancing easy—Easily installed, they cannot rattle or work loose.

Available in sizes 1/2 oz. to 32 ez.

MID-WESTERN AUTO PARTS, Manufacturers, 824 E. Elm St., Kokomo, Ind. Western Distributor: Kenneth V. Mills, Los Angeles, Cal.

BUELL HORNS



Buell High Pressure Air Horns have a power-ful, penetrating tone that gets attention and commands respect. Eliminate many time-wasting stops and starts. Available on Priority.

BUELL AIR COMPRESSOR

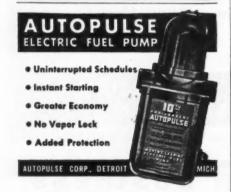
Used on bomber and fighter planes to operate brakes and machine guns. Precision workpraces to operate brakes and machine guns. Precision work-manship assures long, depend-able service without frequent parts replacement.



BUELL MANUFACTURING CO.



FOR TRUCKS, TRAILERS AND BUSES. THE DAYTON STEEL FOUNDRY CO. DAYTON, OHIO



The most important thing PUROLATOR about oil is ...

PUROLATOR PRODUCTS, INC.

Newark, N. J.

(CONTINUED FROM PAGE 196) compensate for the cost. And you in turn will be able to get your goods out to his place at savings which will enable you to

compete with the most efficient operations in other towns or localities.

Flexibility, the greatest single asset of the motor vehicle, will be restored because there will be facilities available for movement and storage.

The key to the whole problem of transportation is the city layout and a knowledge of the transportation habits of the people who live in your town or who travel in and out of it.

Fortunately, these facts are available in the offices of the city engineer in your community or in the highway planning surveys made by your state. Far visioned, practical men, led by Thomas H. Mac-Donald, the great Commissioner of Public Roads, have been at work for years gathering those facts which are the essential foundation from which the program could be developed.

From these studies, it is immediately apparent that the principal desire of the traveling public is to move for short distances at a time right into the heart of the city. Once there they want a place to park until they are ready to leave.

Radial Expressways

Sorted out, this means in the simplest terms that what your city needs are radial expressways into and through the heart of the city, and encircling belt expressways at proper spacings depending upon the size of your town and the traffic movement through it, which will enable the driver to move rapidly until he comes to that local street which is closest to his destination point.

(TURN TO PAGE 200, PLEASE)



TESTS SHOW THE NEW HEAVY-DUTY ASF safety 5th WHEEL PLATE TO HAVE NO NOTICEABLE DISTORTION UNDER A STATIC LOAD IN EXCESS OF 200,000 LBS.

Automotive Division
AMERICAN STEEL FOUNDRIES 400 NORTH MICHIGAN AVE., CHICAGO II.

OVERSIZE REAR WHEEL

STUDS for all TRUCKS

Send for Catalog Order fro





6191 Maple Ave. St. Louis, Mo.

ANY MOTOR TRANSPORT **HEATING PROBLEMS?**

Consult our Engineers

HUNTER AND COMPANY 1560 East 17th Street. **CLEVELAND 14, OHIO**

KINGBEE

"... pioneers in safety equipment"

lamps . mirrors . reflectors . flares

AMERICAN AUTOMATIC DEVICES CO. Harrison, Throop and Congress Streets CHICAGO, ILLINOIS



You must get the MOST from your present truck equipment to keep War Material moving.

Large capacity SNYDER (patented) Safety Tanks will eliminate unnecessary refueling delays. By the use of the Flame Guard Safety Valve (standard on all Snyder tanks) added protection is afforded against fire hazards. Capacities range from 28 to 50 gallons in the cylinder type; 75 to 125 gallons in the saddle type. Approved by the Underwriters' Laboratories, Inc.

Distributed in all principal cities. Write for descriptive literature.

SNYDER MANUFACTURING CO. Dept. CC



BUFFALO. N. Y.



\$5.95 Quicker and Easier to Use! Only 10 Inches Long

ER S.

ES

EL

inc.

flares

S CO. treets

. Y.

JOURNAL

The Micro-Linor Too-In Measuring Gauge requires only one man to operate it. Just attach the grippers to the rims and take front reading. Then roll vehicle forward and take rear reading.

Quicker—because gauge remains in same spot for both rendings. All done in less than 2 minutes. Simple. Extremely accurate. Fits any vehicle. Every mechanic should own eas.

Micro-Linor Service Corporation

1621 W. Fort St. Detroit 16, Mich.



AMP





1458 S. MICHIGAN AVE. - CHICAGO

COMPANY

When tires show wear in spots, it's a sign that the wheel assembly is heavier at the places where the spotty wear occurs. The remedy is to balance the wheels with L & H Weights—a precaution that will repay its cost many times over in lengthened tire life.

There's Only One BURN-OUT PROOF DIRECTIONAL SIGNAL SWITCH and we make it!



Available in complete sets of Signal - Stats replacement switch.

ASK YOUR JOBBER

Pat. Pend.

SIGNAL-STAT CORPORATION

68 JAY STREET

BROOKLYN, N.



- Commercial car maintenance men who know brakes best, specify flare hydraulic brake fluids blend perfectly with all original equipment and other first quality brake fluids.
- Laboratory and highway tests prove FLARE is tops in quality. Available in flit type and shop size can
- Ask your wholesaler, or write.

FLARE LABORATORIES THE BELL 1858 W. KINZIE STREET, CHICAGO, ILL.











duty service

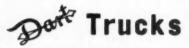
CORPORATION, Chicago, KATHANODE





YOUR SYMBOL OF SERVICE





HEAVY DUTY FOR OFF THE HIGHWAY SERVICE

— Specially Designed for —
Coal Mining—Iron Ore Mining—Copper
Mining—Pit and Quarry—Logging—Oil
Fields—Etc.
14 Costs No More for Trucks Specially
Built to Fit Your Needs. Have Our Engineers Visit and Analyze Your Operation.

DART TRUCK COMPANY KANSAS CITY, MO.





THE TIMKEN ROLLER BEARING COMPANY CANTON, OHIO

KINNEAR ROLLING DOORS FOR TRUCKS Save space! Open upward! Coil out of way. Always safe from wind. Can't joggle open! Less chance of damage to doors All Metal Fireproof! Prevent thefts. Write for details.

The KINNEAR MFG. CO. 2100-20 FIELDS AVE., COLUMBUS, OHIO

FOR BUILDINGS - the recognized leader

(CONTINUED FROM PAGE 198)

Given a selective system of this sort, which means only a very limited mileage of improvement out of the total, at once freedom of movement is permitted, the heavy traffic is drained off local streets and deliveries are expedited at lowered cost.

If it is that simple, why not? Well, of course, the solution is easier to state than to apply. First of all, there must be a plan, which I'm sure you have now. Second, rights of way must be acquired and that is both expensive and slow under the present day laws, even though it isn't necessary to take the most expensive frontages in order to achieve the purpose. So condemnation laws in most states need revision.

Then access to the expressways must be limited. They musn't be built at grade or if they are built at grade in the first stages of the improvement, then local streets intersecting them should be deadended except at appropriate intervals; and service streets must be provided so that local traffic needs can be met. Then there has to be a careful study of a method of financing which will properly allocate costs.

Since this operation in its entirety may take years to final accomplishment, the urgent thing is to get your master program off the shelf and get the first steps in the program put down into blueprint form, specifications and all, now,

Every businessman, every woman shopper, every educator, everyone in your community must understand what this means to him and to his family, because each must help pay for it. You don't need to spend much time with your public officials if they are competent men. They know the problem, are ready to act, but they need your help and authority.





MOHAWK



THE MOHAWK RUBBER CO. AKRON, O.



Repair **ENGINE CRACKS**

30 MINUTES . FAST! EASY TO USE! No special equipment or training needed with Wonder Seal. Write for Wonder Folder.

OFTEN IMITATED . . . NEVER EQUALLEDI WONDERWELD PRODUCTS MILLER MFG. CO. CAMDEN, N. J.

Adds Wear-Resistance and Corrosion-Resistance to Bearings

Has decorative values for metal finishes Write or call for further information.

The INDIUM Corporation of America Utica, N. Y.

New York Office: 60 East 42nd Street





loseph Weidenhoff, Inc.



4340-58 W. Roosevelt Rd., Chicago 24, Illinois



JONES PORTABLE TACHOMETER



ed

0.

ica

C. W. ?d..

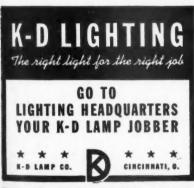
DURNAL

The world's largest operators of commercial vehicles use Jones Portable Tachometers to check engine speeds for tune-ups, and setting governors, etc. Here are a few: Standard Oil Co., of La., N. J., N. Y., Shell Petroleum Co., Atlantic Refining Company, Tidewater Oil Company, Keeshin Motor Express, Mack Trucks, Brockway, U. S. Navy.

Direct, instantaneous reading

JONES-MOTROLA, STAMFORD, CONN. 432 FAIRFIELD AVENUE







(CONTINUED FROM PAGE 200)

Many Cities Have Begun Work

That the whole program is practical, more than it is a pre-requisite to the successful operation of your business in postwar days, is best demonstrated by the fact that many cities have already undertaken important steps in the direction of getting the job done. New York, Chicago, Pitts-burgh, Los Angeles, Detroit, almost every city in the United States, large and small, has got at least the beginning of a program underway. Where modern design principles have been applied in expressways already built, the results have been tremendous in the safe, efficient circulation of heavy volumes of traffic freed from congestion.

But all that has been done is only a beginning within the cities, and the problem, moreover, goes beyond cities to the final realization of a transportation network that will care reasonably and safely for the needs of our total population.

Thus far I have talked about the metropolitan side of the problem because it is there that the major part of use of the truck occurs. It is there also that the inadequacies have accumulated most heavily in highway facilities.

There is another side, however, the movement between cities and into rural areas. Like the urban problem, this too has been subjected to the careful and exhaustive analysis of men who have devoted their lives to the subject.

Their plan, in broad outline, is now

ready, crystallized in the report of the National Interregional Highways Committee of which Commissioner MacDonald is Chairman. (See Feb. 1944, CCJ, page 57.)

Out of this related and co-ordinated development, going ahead simultaneously, practically all of the general traffic needs of the United States can be met.

END

(Please resume your reading on P. 56)

STANDARD and SPECIAL TRUCKS



Gasoline or Diesel **Powered** 11/2 to 30 Tons Two, four or six wheel drive

AVAILABLE TRUCK CO. 2501 Elston Avenue Chicago, Illinois

> A battery is no better than the name behind it

THE GREATEST NAME IN ELECTRICITY

HEAVY-DUTY Clutches Insure Maximum Clutch Life

- 20 ball-hinged levers for uniform pressure, smooth engagements, easy disengagements.

 Parallel disc contact. ** No localized burning. ** Long facing life.

 Warp-resisting pressure plate.

- Warp-resisting pressure plate.

 Rigid cast iron construction. * Forced internal air cooling.

 Write for Full Information
 Lipe-Rollway Corporation
 Syracuse, N. Y., U.S.A.



WHEN Uncle Sam called TUTHILL SPRINGS into service, he demanded the best that our sixty-thres years' experience, skill and facilities could produce. And he has not been disappointed. They serve on all fronts, in all types of motorised service. Strong, well-made, resilient, tough, durable, they're in front at the front.

Our engineering department is at your service.

TUTHILL SPRING CO. 760 W. Polk St. CHICAGO, ILL.

ADVERTISERS' INDEX

This Advertisers' Index is published as a convenience and not as part of the advertising contract. Every care will be taken to index correctly. No allowance will be made for errors or failure to insert.

	AC Spark Plug Div	Federal Motor Truck Co. 103 Fisk Tires 168-169 Fitzgerald Mfg. Co. 186 Flare Laboratories 199 Four Wheel Drive Auto Co. Back Cover Fram Corporation 139 Frink, Inc., Carl H. 200 Fruehauf Trailer Co. 71 Fuller Mfg. Co. 166 Fulton Co., The 194 G & O Manufacturing Co. 193 Gabriel Company 200 Gatke Corp. 196 General Detroit Corp. 186 General Motors Truck & Coach Div. Div. 15 General Tire & Rubber Co. 19	Parish Pressed Steel Co. 127 Pedrick Piston Rings 12 Pennsylvania Rubber Co. 77 Perfect Circle Co., The 7 Perfection Steel Body Co. 156 Permalux Company, The 186 Permatex Co., Inc. 3 Purolator Products, Inc. 198 Quaker State Oil Refining Corp. 104 Ramsey Accessories Mfg. Corp. 8 taybestos Div., Raybestos-Manhattan, Inc. 99 Reo Motors, Inc. Front Cover Rich Valves 2 Roller Bearing Co. of Amer. 96 Ross Gear & Tool Co. 121-122-123-124
1111	Armstrong Cork Co. 147 Associated Tire Lines 14 Austin Trailer Equipment Co. 192 Autocar Company 17 Automotive & Aircraft Div. Amer. Chain & Cable Co., Inc. 22 Autopulse Corp. 198 Available Truck Co. 201	Globe-Union, Inc. 167	\$K F Industries, Inc. 18 \$St. Paul Hydraulic Hoist Co. 23 \$Salisbury Axle Co. 127 \$Sawyer & Son Co., H. M. 191 \$Schrader's Sons Div., A. 137 \$Sealed Power Corp. 75 \$Seiberling Rubber Co. 115 \$Service Recorder Co., The 140 \$Sealed The Company Company 140
	Baldor Electric Company 192 Barber-Colman Co. 128 Bear Mfg. Co. 112 Bendix-Westinghouse Automotive Air Brake Co. 132 Bishman Mfg. Co. 132 Blackhawk Mfg. Co. 162 Blood Brothers Machine Co. 92 Boots Aircraft Nut Corp. 30 Borg-Warner Corp. 16 Bowman Automotive Plastics Co. 192 Bridgeport Fabrics, Inc. 189 Brown Lipe Gear Co. 127 Buell Manufacturing Co. 198 Buffalo Fire Appliance Corp. 142	Haskelite Mfg. Corp. 199 Hastings Mfg. Co. 93 Hein-Werner Motor Parts Corp. 175 Herbrand Corp. 126 Highway Trailer Co. 81 Holland Hitch Co. 193 Hollingshead Corp., R. M. 192 Hoof Products Co. 136 Hunter and Company 198 Imperial Brass Mfg. Co., The. 98 Indium Co. 200 International Chain & Mfg. Co. 194 International Harvester Co. 34 Johns-Manville Corp. 145	S.ialer Company, The 196
	Carnegie-Illinois Steel Corp. 183 Carter Carburetor Corp. 194 Casite Corp. The 97 Central Equipment Co. 94 Champ-Items, Inc. 198 Champ-Items, Inc. 9 Chicago Rivet & Machine Co. 84 Cities Service Oil Company. 200 Cleveland Hardware & Forging Co. 87 Columbia Steel Co. 183 Columbus-McKinnon Chain Corp. 192 Continental Motors Corp. 201 Cooper Corp. 90 Crescent Co. 192 Cummins Engine Co. 12 Curtis Pneumatic Machinery Div. 192 Curtis Mfg. Co. 192	Jones-Motrola Sales Co. 201	T & H Mfg. Co. 190 Teleoptic Co. 138 Texas Co., The 4-5 Thermoid Co. 131 Thompson Products, Inc. 157 Tide Water Asso. Oil Co. 28-29 Timken-Detroit Axle Co., The 10 Timken Roller Bearing Co. 200 Titeflex, Inc. 91 Tobin-Arp Mfg. Co. 193 Trailer Co. of Amer. 174 Truck Equipment Co., Inc. 130 Trucktor Corp., The 181 Tuthill Spring Co. 201 Tyson Bearing Corp. 182 U. S. Asbestos Div. Raybestos-
	Dart Truck Co. 200 Dayton Rubber Mfg. Co. 155 Dayton Steel Foundry Co., The 198 Delco-Remy Div., G. M. Corp. 178 DeLuxe Products Corp. 194 Detroit Diesel Eng. Div. G. M. Corp. 203 Detroit Surfacing Machine Co. 189	Lipe-Rollway Corp. 201 Lisle Corp. 196 Loney Co., Harley C. 199 Long Mfg. Div., Borg-Warner Corp. 153 Lynch Manufacturing Corp. 82 McCreary Tire & Rubber Co. 86	Manhattan, Inc. 20 U. S. Rubber Co. 31-148 U. S. Steel Corp. 183 Valley Electric Corp. 196 Valvoline Oil Co. 197 Van der Horst Corp. of Amer. 117 Victor Mfg. & Gasket Co. 165
	DeVilbiss Co., The	Mack Trucks, Inc. 63 Macmillan Petroleum Corp. 83 Magnus Chemical Co. 194 Maremont Auto, Prod. Inc. 199 Marmon-Herrington Co., Inc. 32 Marquette Mfg. Co., Inc. 120	W G B Oil Clarifier, Inc 194 Wagner Electric Corp 160 Walker Mfg. Co. of Wis 149 Walter Motor Truck Co 185 Ward LaFrance Truck Div., Great
	Dole Valve Co., The	Marvel-Schebler Div. 102 Meehanite Research Institute. 201 Meyercord Co., The 152 Michiana Products Corp. 146 Micro-Linor Service Corp. 199	American Ind., Inc
	Eberhard Mfg. Co. (Div. of the Eastern Malleable Iron Co.)	Midland Steel Products Co. 65 Mid-Western Auto Parts. 197 Miley Co. 125 Miller Mfg. Co. 200 Miller Tires 14 Milwaukee Dustless Brush Co. 134 Mohawk Rubber Co. 200 Monmouth Products Co. 196 Morse Chain Co. 191 National Auto. Parts Assn. 201 New Britain Machine Co. 101 Niehoff & Co. E. 195	Weatherhead Co. 27 Weidenhoff, Joseph, Inc. 200 Weilman Co., S. K. 200 White Motor Co. 67 Whitehead Stamping Co. 197 Wilcox Rich Corp. 2 Wilkening Mfg. Co. 12 Willard Storage Battery Co. 171 Wiry Joe 192 Wittek Mfg. Co. 80 Wix Accessories Corp. 154 Wohlert Corp. 196 Wolf's Head Oil Refining Co., Inc. 170
	Ethyl Corp. 23 Evans Reamer & Machine Co. 191 Everhot Mfg. Co. 195 Everhot Products Co. 105	Oakite Products, Inc. 190 Ohio Piston Company 68 Oshkosh Motor Truck, Inc. 25	Yankee Metal Prod. Corp. 108 York-Hoover Body Corp. 150 Young Windows 200
	Federal-Mogul Service 141	Packard Elec. Div. G. M. Corp 135	Zollner Machine Works 184



LCM (Landing Craft Mechanized) 50 ft.



LCI (Landing Craft Infantry) 157 ft.



LCT (Landing Craft Tanks) 105 ft.



LCV(P) (Landing Craft Vehicle Personnel) 36 ft.

America's Fighters move in - with GM DIESELS

N the face of enemy fire these remarkable invasion boats nose in on enemy shores and pour out America's tough fighters and fighting equipment.

They move on split-second orders—must get in and out again by themselves—on the dot, come hell or high water.

It's the kind of service that calls for utmost re-

liability, maneuverability and quick response.

In these capable craft—from the 36-foot LCV(P) to the big 328-foot LST—you find the engines America and our Allies know so well, General Motors Diesels.

To these engines are assigned the jobs that call for the greatest dependability the engine world knows.



URNAL



Meet the dragon wagon

A typical example of B. F. Goodrich development in rubber

CRAGON WAGON" is what the soldiers call this tank recovery unit. It is a mammoth truck trailer powered by an army-designed tractor, big enough to carry a 30-ton General Sherman tank on its back.

On the battlefield, the dragon wagon is used to haul away disabled tanks, carry them behind the lines to a repair depot.

Tires for such front-line service presented an unusual problem. They had to be able to carry tremendous loads, to travel over rocks and desert sand, to wade through mud and water
— and to keep on going when hit by
machine gun bullets!

For many army jobs regular B. F. Goodrich truck tires did the trick. For combat service special tires were developed of extra-thick rubber. These tires are built in such a way that when hit by a bullet the extra-thick sidewalls can support the load. And the tires are locked to the rim so that even when flat, the tire hangs on to the wheel. The vehicle can still travel.

It's because of these military needs

that tires for civilians are scarce, but some are being made. Those for passenger cars are all-synthetic (99.8%) and are almost as good as pre-war tires. Truck tires aren't yet as good, especially in intercity service with overloads, but are being improved day by day. If you can buy tires, go to a B. F. Goodrich dealer or store. You'll get synthetic tires backed by 17 years of experience with synthetic rubber in all kinds of products. The B. F. Goodrich Co., Akron, O

B.F. Goodrich Truck & Bus Tires



Wide-base rims, advocated as a means of reducing tire wear, may defeat their purpose unless their weight is held down. That's unsprung weight, tough on tires and wheel supports. So, figure on what lightweight Alcoa Aluminum will do here.

Tire manufacturers long ago recognized that, if they could cut rim weight, they could thereby lengthen tire life. Logically, they turned to aluminum as a means of accomplishing this weight-saving. Trucks and buses were equipped with aluminum rims, but this experimental work was stopped when all aluminum was assigned to war uses.

With aluminum becoming more available, this might be a fine time to revive this work. Save rubber and conserve labor by mounting wide-base tires on lightweight aluminum rims.

The extruded shape shown above was one of the early rim shapes produced by Alcoa for a tire company. Formed into a circle and welded, this made a rim which was inexpensive to manufacture and was correct in every detail. The extrusion process places metal exactly where it is needed for functional and service purposes. ALUMINUM COMPANY OF AMERICA, 2130 Culf Bldg., Pittsburgh, Pennsylvania.

ce, but

se for thetic

ood as

yet as service

proved

go to 2 You'll

years

ber in Good-

ch

res

OURNAL



ALCOA ALUMINUM



port. In this important service FWD's "deliver the goods" with the dependability that has made them outform year after year at lowest cost per ton-mile.

THE FOUR WHEEL DRIVE AUTO CO.

CLINTONVILLE, WISCONSIN

Canadian Factory: Kitchener, Ontario



M EVERY FIELD WHERE TRUCK QUALITY IS PUT TO THE TEST











FWD's DELIVER

